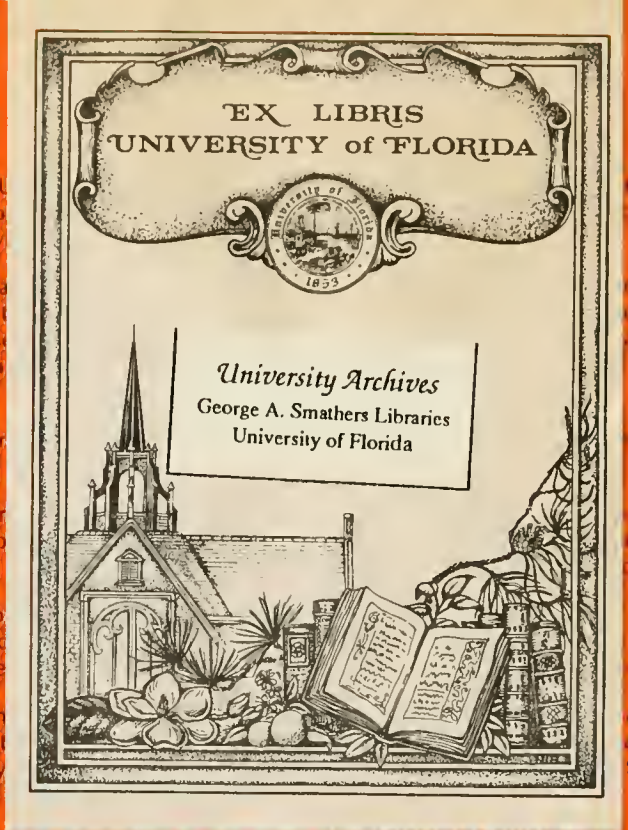
March 1980

THE UNIVERSITY RECORD

University
of
Florida
Undergraduate Catalog
1980 • 1981



Now that you have the U help in using it. Ac-
cording to Webster, a catalo ally with descriptive
detail. But to find exactly w

This undergraduate cata ns the University ad-
ministration as it relates to t lemic units, and the
third section lists the cours a calendar of critical
dates at the front and a listi placed at the end of
the catalog.

In addition to general in n has specific details
about admission, expenses,

A student at the Univer . The second section
of the catalog explains the p udy, degrees offered,
requirements for admission n are located here

The second section sho a bachelor's degree.
Here you learn about the inc osophy on which the
curriculum is based and the d

The third section lists th lphabetically by de-
partments of instruction. It ach of the four quar-
ters. This section is partially the statewide course
number and the University

For example, ZOO 2011C is shorthand for the course Principles of Animal Biology. Following the title are the letters F, W, S, SS meaning it is offered in each of the quarters—Fall, Winter, Spring and Summer session. The course carries five credit hours. It lists as prerequisites ZOO 2010C (Introductory Zoology Laboratory) and CHM 2040 or CHM 2045C (General Chemistry), meaning they must be completed satisfactorily before registration for ZOO 2011C. A separate schedule of courses is printed each quarter and used in conjunction with the catalog during registration.

FOR ANSWERS TO THESE QUESTIONS:	
"Could I be admitted?"	For admission requirements, refer to Admission section in general section and to your specific college section.
"How much does it cost?"	See Expenses in general section.
"Where can I live?"	Check Housing section
"When do classes start? What about vacations?"	See University calendar and critical dates in front section.
"What programs are available? What courses can I take?"	Look at descriptions of colleges in second section. Check requirements for specific courses
"Where can I find out about grades, probation and suspension?"	See academic regulations, general section.
"What could I major in and what degrees are offered?"	See college descriptions.
"What about financial aid?"	See student affairs in general section.
"What is special about the University of Florida?"	See A Complete University page viii.

THE UNIVERSITY RECORD of the UNIVERSITY OF FLORIDA

The Undergraduate Catalog has been adopted as a rule of the University pursuant to the provisions of Chapter 120 of the Florida Statute. Addenda to the University Record Series, if any, are available upon request to the Office of the Registrar.

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This public document was promulgated at a total cost of $50,149.20 or 84 cents per copy to inform students, parents, University faculty, and other interested persons of degree programs and curricula offerings at the University of Florida.

CALENDAR for 1980

JULY						
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CALENDAR for 1981

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(CRITICAL DATES)

FALL TERM 1980

Registration	September 15-18
Classes Begin	September 22
Classes End	December 5
Final Examinations	December 8-13
Grades Due (Graduating Seniors)	December 11
Commencement	December 13
Grades Due (All)	December 15

WINTER TERM 1981

Registration	January 5-6
Classes Begin	January 7
Classes End	March 13
Final Examinations	March 16-21
Grades Due (Graduating Seniors)	March 19
Commencement	March 21
Grades Due (All)	March 23

SPRING TERM 1981

Registration	March 27
Classes Begin	March 30
Classes End	June 5
Final Examinations	June 8-13
Grades Due (Graduating Seniors)	June 11
Commencement	June 13
Grades Due (All)	June 15

SUMMER TERM 1981

Registration	June 18-19
Classes Begin	June 22
Classes End	August 21
Final Examinations	August 24-29
Grades Due (Graduating Seniors)	August 27
Commencement	August 29
Grades Due (All)	August 31

UNIVERSITY OF FLORIDA CALENDAR, 1980-81 FALL QUARTER

1980

February 1, Friday, 4:00 p.m.

Deadline for applications to be received by Admissions for Physician's Assistant Program.

March 3, Monday, 4:00 p.m.

Last day for beginning Freshmen students to file application for admission for the Fall Quarter. Students unable to meet this deadline may apply on a space available basis.

Deadline for applications to be received by Admissions for Pharmacy.

March 14, Friday, 4:00 p.m.

Deadline for the completion of all application procedures, including departmental requirements, and receipt of official transcripts for Physical Therapy, Medical Technology, and Clinical and Community Dietetics.

June 2, Monday, 4:00 p.m.

Deadline for the completion of all application procedures, including departmental requirements, and receipt of official credentials for the College of Nursing.

July 3, Thursday, 4:00 p.m.

Last day for filing application at the Office of the Registrar to change college or division for the Fall Quarter.

July 25, Friday, 4:00 p.m.

Last day for those not previously in attendance or those previously in attendance at the University of Florida (except beginning Freshmen) to file application for admission for the Fall Quarter. Students unable to meet this deadline may apply on a space available basis.

August 29, Friday, 4:00 p.m.

Last day for clearing admissions for those whose applications were filed by above deadline. All credentials must have been received and college changes approved. Those who apply or clear after this date will be assigned late registration appointments.

September 15-18, Monday-Thursday.

Orientation and registration according to appointments assigned. No one permitted to start registration on Thursday, September 18, after 3:00 p.m.

September 19, Friday

Drop/Add begins. Late registration begins. All students registering late subject to $25 late fee.

September 22, Monday—Classes begin.

UNIVERSITY OF FLORIDA CALENDAR, 1980-81

September 26, Friday, 4:00 p.m.

Last day for completing late registration for Fall Quarter. No one permitted to start registration on Friday, September 26 after 3:00 p.m.

Last day for Drop/Add and for changing sections. Students liable for fees for all hours for which registered. Any change after this date will be according to individual college petition procedures until date WF's are assigned.

Last day student may withdraw from the University and receive any refund of fees unless withdrawal is for medical or military reasons.

Last day for filing S-U option card in Registrar's Office.

September 29, Monday

Last day for paying fees without being subject to late fee of $25. Students must have correctly assessed fees and paid fees in full by this date.

Last day for filing address change in Registrar's Office, if not living in residence halls, in order to receive fee statement if applicable at new address.

October 3, Friday, 4:00 p.m.

Last day for filing degree application at the Registrar's Office for a degree to be conferred at the end of the Fall Quarter.

Last day to apply with the Registrar for an Associate of Arts certificate to be awarded at the end of the quarter.

October 10, Friday, 4:00 p.m.

Last day for changing any grade assigned in the preceding term, except in a modular course. If not made up, grades of I or X become E.

Last day for filing application at the Office of the Registrar to change college or division for the next quarter.

October 24-25, Friday-Saturday—Homecoming—All classes suspended Friday.

November 11, Tuesday—Veterans Day—Classes suspended.

November 21, Friday, 4:00 p.m.

Last day for dropping a course by college petition. No drops permitted after this date without receiving WF grades.

Last day for withdrawing from University without receiving failing grades in all courses.

November 26, Wednesday, 10:00 p.m.

No examinations, class quizzes or progress tests may be given after this date and prior to the final examination period.

November 27-28, Thursday - Friday—Thanksgiving—Classes suspended 10:00 p.m. November 26.

December 1, Monday, 8:00 a.m.—Classes resume.

December 5, Friday—All classes end.

December 8, Monday

Final examinations begin. Assembly examinations begin Saturday, December 6.

December 11, Thursday, 10:00 a.m.—Degree candidates' grades due.

December 12, Friday, 3:00 p.m.
Report of colleges on degree candidates due in the Office of the Registrar.

December 13, Saturday—Commencement Convocation.

December 15, Monday, 9:00 a.m.
Last day for submitting grades for Fall Quarter including those given extension by Department Chairman.

UNIVERSITY OF FLORIDA CALENDAR, 1980-81 WINTER QUARTER

1980

November 7, Friday 4:00 p.m.
Last day for those not previously in attendance or those previously in attendance at the University of Florida to file application for admission for the Winter Quarter. Students unable to meet this deadline may apply on a space available basis.

December 5, Friday, 4:00 p.m.
Last day for clearing admissions for those whose applications were filed by above deadline. All credentials must have been received and college changes approved. Those who apply or clear after this date will be assigned late registration appointments.

1981

January 5-6, Monday-Tuesday
Registration according to appointments assigned. No one permitted to start registration on Tuesday, January 6, after 3:00 p.m.

January 7, Wednesday
Classes begin. Drop/Add begins. Late registration begins. All students registering late subject to $25 late fee.

January 13, Tuesday 4:00 p.m.
Last day for completing late registration for Winter Quarter. No one permitted to start registration on Tuesday, January 13, after 3:00 p.m.
Last day for Dop/Add and for changing sections. Students liable for fees for all hours for which registered. Any change after this date will be according to individual college petition procedures until date WF's are assigned.
Last day student may withdraw from the University and receive any refund of fees unless withdrawal is for medical or military reasons.
Last day for filing S-U option card in Registrar's Office.

January 14, Wednesday
Last day for paying fees without being subject to late fee of $25. Students must have correctly assessed fees and paid fees in full by this date.
Last day for filing address change in the Registrar's Office, if not living in residence halls, in order to receive fee statement if applicable at new address.

January 20, Tuesday, 4.00 p.m.
Last day for filing application at the Office of the Registrar to change college or division for the next quarter.
Last day for filing degree application at the Registrar's Office for a degree to be conferred at the end of the Winter Quarter.
Last day to apply with the Registar for an Associate of Arts certificate to be awarded at the end of the quarter.

January 23, Friday, 4:00 p.m
Last day for changing any grade assigned in the preceding term, except in a modular course. If not made up, grades of I or X become E.

February 27, Friday, 4:00 p.m.
Last day for dropping a course by a college petition No drops permitted after this date without receiving WF grades.
Last day for withdrawing from University without receiving failing grades in all courses.

March 6, Friday, 10:00 p.m.
No examinations, class quizzes or progress tests may be given after this date and prior to the final examination period.

March 13, Friday—All classes end.

March 16, Monday
Final examinations begin. Assembly examinations begin Saturday, March 14.

March 19, Thursday, 10:00 a.m.—Degree candidates' grades due.

March 20, Friday, 3:00 p.m.
Report to colleges on degree candidates due in the Office of the Registrar.

March 21, Saturday—Commencement Convocation.

March 23, Monday, 9:00 a.m.
Last day for submitting grades for Winter Quarter including those given extension by Department Chairman.

UNIVERSITY OF FLORIDA CALENDAR, 1980-81 SPRING QUARTER

1980

December 1, Monday, 4:00 p.m.
Deadline for the completion of all application procedures, including departmental requirements, and receipt of official credentials for the College of Nursing.

1981

February 13, Friday, 4:00 p.m.
Last day for those not previously in attendance or those previously in attendance at the University of Florida to file application for admission for the Spring Quarter. Students unable to meet this deadline may apply on a space available basis.

March 13, Friday, 4:00 p.m.
Last day for clearing admissions for those whose applications were filed by the above deadline. All credentials must have been received and college changes approved. Those who apply or clear after this date will be assigned late registration appointments.

March 27, Friday
Registration according to appointments assigned. No one permitted to start registration on Friday, March 27, after 3:00 p.m.

March 30, Monday
Classes begin. Drop/Add begins. Late registration begins. All student registering late subject to $25 late fee.

April 3, Friday, 4:00 p.m.
Last day for completing late registration for Spring Quarter. No one permitted to start registration on Friday, April 3 after 3:00 p.m.
Last day for Drop/Add and for changing sections. Students liable for fees for all hours for which registered. Any change after this date will be according to individual college petition procedures until date WF's are assigned.
Last day student may withdraw from the University and receive any refund of fees unless withdrawal is for medical or military reasons.
Last day for filing S-U option card in Registrar's Office.

April 6, Monday
Last day for paying fees without being subject to late fee of $25 Student must have correctly assessed fees and paid fees in full by this date.
Last day for filing address change in the Registrar's Office, if not living in residence halls, in order to receive fee statement if applicable at new address.

April 10, Friday, 4:00 p.m

Last day for filing degree application at the Registrar's Office for a degree to be conferred at the end of the Spring Quarter.

Last day to apply with the Registrar for an Associate of Arts certificate to be awarded at the end of the quarter.

April 17, Friday, 4:00 p.m.

Last day for filing application at the Office of the Registrar to change college or division for the next quarter.

April 24, Friday, 4:00 p.m.

Last day for changing any grade assigned in the preceding term, except in a modular course. If not made up, grades of I or X become E.

May 22, Friday, 4:00 p.m.

Last day for dropping a course by college petition. No drops permitted after this date without receiving WF grades.

Last day for withdrawing from the University without receiving failing grades in all courses.

May 25, Monday—Memorial Day—Classes suspended.

May 29, Friday, 10:00 p.m.

No examinations, class quizzes or progress tests may be given after this date and prior to the final examination period.

June 5, Friday—All classes end.

June 8, Monday

Final examinations begin. Assembly examinations begin Saturday, June 6.

June 11, Thursday, 10:00 a.m.—Degree candidates' grades due.

June 12, Friday, 3:00 p.m.

Final report of colleges on degree candidates due in the Office of the Registrar.

June 13, Saturday—Commencement Convocation.

June 15, Monday, 9:00 a.m.

Last day for submitting grades for Spring Quarter including those given extension by Department Chairman.

UNIVERSITY OF FLORIDA CALENDAR, 1980-81 SUMMER QUARTER

1981

May 1, Friday, 4:00 p.m.

Last day for those not previously in attendance or those previously in attendance at the University of Florida to file application for admission for the Summer Quarter. Students unable to meet this deadline may apply on a space available basis.

June 5, Friday, 4:00 p.m

Last day for clearing admissions for those whose applications were filed by the above deadline. All credentials must have been received and college changes approved. Those who apply or clear after this date will be assigned late registration appointments.

June 18-19, Thursday-Friday

Registration according to appointments assigned. No one permitted to start registration on Friday, June 19, after 3:00 p.m.

June 22, Monday

Classes begin, Drop/Add begins. Late registration begins. All students registering late subject to $25 late fee.

June 26, Friday, 4:00 p.m.

Last day for completing late registration for Summer Quarter. No one permitted to start registration on Friday, June 26, after 3:00 p.m.

Last day for Drop/Add and for changing sections. Students liable for fees for all hours for which registered. Any change after this date will be according to individual college petition procedures until date WF's are assigned.

Last day student may withdraw from the University and receive any refund of fees unless withdrawal is for medical or military reasons.

Last day for filling S-U option card in Registrar's Office.

June 29, Monday

Last day for paying fees without being subject to late fee of $25. Student must have correctly assessed fees and paid fees in full by this date.

Last day for filing address change in Registrar's Office, if not living in residence halls, in order to receive fee statement, if applicable at new address.

July 2, Thursday, 4:00 p.m.

Last day for filing degree application at the Registrar's Office for a degree to be conferred at the end of the Summer Quarter.

Last day to apply with the Registrar for an Associate of Arts certificate to be awarded at the end of the quarter.

July 3, Friday—Independence Day Holiday—Classes suspended.

July 10, Friday, 4:00 p.m.

Last day for filing application at the Office of the Registrar to change college or division for the next quarter.

July 17, Friday, 4:00 p.m.

Last day for changing any grade assigned in the preceding term, except in a modular course. If not made up, grades of I or X become E.

Last day for dropping a five-week summer course by college petition. No drops for five-week courses permitted after this date without receiving WF grades.

Last day for withdrawing from five-week term without receiving failing grades in all courses.

July 24, Friday—Last day of Special Five-Week Summer course offerings.

August 3, Monday, 9:00 a.m.

All grades for Special Five-Week Summer course offerings due in the Office of the Registrar.

August 7, Friday, 4:00 p.m.

Last day for dropping a course by college petition. No drops permitted after this date without receiving WF grades.

Last day for withdrawing from University without receiving failing grades in all courses.

August 14, Friday, 10:00 p.m

No examinations, class quizzes or progress tests may be given after this date and prior to the final examination period.

August 21, Friday—All classes end.

August 24, Monday—Final examinations begin. Assembly examinations begin Saturday, August 22.

August 27, Thursday, 10:00 a.m.—Degree candidates' grades due.

August, 28, Friday, 3:00 p.m.

Report of colleges on degree candidates due in the Office of the Registrar.

August 29, Saturday—Commencement Convocation.

August 31, Monday, 9:00 a.m.

Last day for submitting grades for Summer Quarter, including those given extension by Department Chairman.

FLORIDA'S FIRST UNIVERSITY

A COMPLETE UNIVERSITY

Florida's first, the University of Florida, is also one of America's truly distinctive universities. Along with Ohio State and the University of Minnesota, the University of Florida offers more academic programs on a single campus than any of the nation's other universities, private and public. It is also among the nation's 25 largest universities; yet its division into 18 colleges and schools, with their 140 departments, gives students the opportunity to know and work closely with most of their classmates and teachers. Its location in Florida's University City — Gainesville, dedicated from its founding to serve as a home away from home for college students — adds immeasurably to the educational and social opportunities for students.

In short, the University of Florida is a residential campus, with rich resources available because of its size, that provides a learning and living environment for the whole person: Daily contacts — in class, in clubs, between classes and in dormitories and apartments — with other students from every spectrum of society and with virtually every career goal known to humanity . . . . Daily opportunities to attend concerts, theater productions, art shows, seminars, athletic contests, lectures, and a myriad of other events featuring nationally and internationally known talents . . . Daily communications with a faculty that is comprised of some of the nation's leading scholars in their fields, working in laboratories and libraries among the best in the nation. More than 1,400 faculty members and graduate students are awarded research and training grants annually, ranking the University of Florida among the nation's top 40 research universities.

UNDERGRADUATE OPPORTUNITIES

Because it is a complete university — freshmen through professional and postdoctoral — the University of Florida offers more for its undergraduate students.

Undergraduates aspiring for graduate or professional degrees can study in libraries and laboratories equipped for almost every advanced degree offered anywhere in the world. They study alongside advanced graduate and professional students. They can begin their research as early as they desire, even as freshmen. They can receive counseling from a faculty that has been assembled from major universities in the nation and the world. The University of Florida ranks among the nation's top 25 universities whose bachelor's degree holders move into graduate programs. Its preparatory programs are recognized by the world's leading universities.

Students desiring only bachelor's degrees can choose from 111 majors, almost all of them strengthened by correlative graduate degree programs. This means students can enrich their bachelor's degree programs with advanced courses de-

signed for both undergraduates and graduates. It also means a wider selection of course opportunities outside a student's major field of study. Above all, it means an undergraduate student pursues his or her studies in a complete academic atmosphere.

COSMOPOLITAN STUDENT BODY

Students attending the University of Florida come from every county in the state, every state in the nation, and last year from 90 foreign countries. Eighty per cent of its entering freshmen earned admission test scores above the national average. Thirty-eight per cent of the undergraduates are transfers from community and other colleges. They experience no difficulty competing academically with students who begin their work at the University of Florida. The University of Florida ranks sixth among state universities and 18th among all universities in the nation in the number of National Merit and Merit Achievement Scholars who choose to attend. But the University of Florida is not an elitist university. And it does not want to be. Ten per cent of its limited beginning freshmen spaces are held open for students who do not qualify academically for admission to a Florida state university. These students, and any others who desire, are offered special instructional programs to help them progress scholastically. These programs have the central goal of equipping students with the ability to complete their degrees.

LEADERSHIP TRAINING

Perhaps above all else, the University of Florida offers its students leadership training and experience. Its results are proven. More then half of Florida's Cabinet members, including the Governor, are UF graduates, as are 19 of 40 state senators, one-third of the members of the state House of Representatives, seven Floridians in the U.S. Congress and three state Supreme Court justices. Half of ten persons named in 1978 as Florida's most influential governmental, professional and business persons had attended the University of Florida. Thousands of other Florida graduates occupy key positions in every known professional endeavor throughout the state, in the nation and in many parts of the world.

There are reasons behind the University of Florida's leadership training success. The contained campus — in a larger community whose principal focus is on the University — provides thousands of leadership opportunities. Student Government at the University of Florida is one of the nation's most independent and influential. Every college has its own student council. Almost every committee for governance of the University as a whole — and there are dozens of them — have student members. The University turns many of its activities over to students to implement. Students serve on advisory boards and councils in city and county government. Hundreds of students are employed in career-developing positions and serve internships in Gainesville area institutions. More than 300 student organizations, plus fraternities and sororities, require full slates of officers. Virtually every academic offering provides opportunity for membership in chapters of national student organizations. Churches and civic groups in the community provide special programs and opportunities just for University of Florida students. More than 500 participate in a student volunteer action organization, providing companionship and assistance to children, the elderly, the handicapped, the incarcerated, the underprivileged and the lonely in 14 separate programs. It is the largest student volunteer action group in the nation. A nationally-recognized Student Services Office offers counseling programs for dozens of special student problems — both academic and personal — as well as leadership training programs.

A FUN PLACE

And, yes, the University of Florida believes students should have fun while pursuing their degrees. First, students enjoy their studies. Ask almost any University of Florida student, "What's with you?," and the greatest chance is that he or she will respond with a comment about course work. Second, students enjoy one another. The way they live — in residence halls, apartment complexes and as a dominant population group in the larger community — guarantees that. Third, the University and the community provide recreational and social opportunities by the scores. More than 16,000 people a day use the centrally-located student union on campus. Outdoor recreational courts, pools and fields abound, not only on campus but throughout the community. More than 1,500 persons are able to engage simultaneously in eight different athletic and recreational activities in the new Stephen C. O'Connell Student Activities Center. Entertainment of every description is nightly and every weekend fare, both on the campus and in the community, which gears itself to student interests because of the preponderance of students in it. A full program of men's and women's intercollegiate athletics insures one or more major spectator games per week. More than seventy-five per cent of the Student Body participated last year on 1,401 intramural teams. Gainesville is in the heart of Florida's rolling woods, lakes, springs and river country. And its equidistant — only an hour's drive — from the fishing and boating Gulf Coast and the swimming, surfing and beaching Atlantic Coast. Big name music stars and their bands are brought to campus for concerts almost weekly by Student Government Productions. Students themselves have numerous opportunities to perform in local music groups and stage plays, to exhibit their arts and crafts, to write for several student-operated publications and to pursue hobby interests of every description.

This, in summary, is the University of Florida, Florida's first and one of the nation's most distinctive universities. And more than anything else, a University putting the interests of the individual student ahead of anything else.

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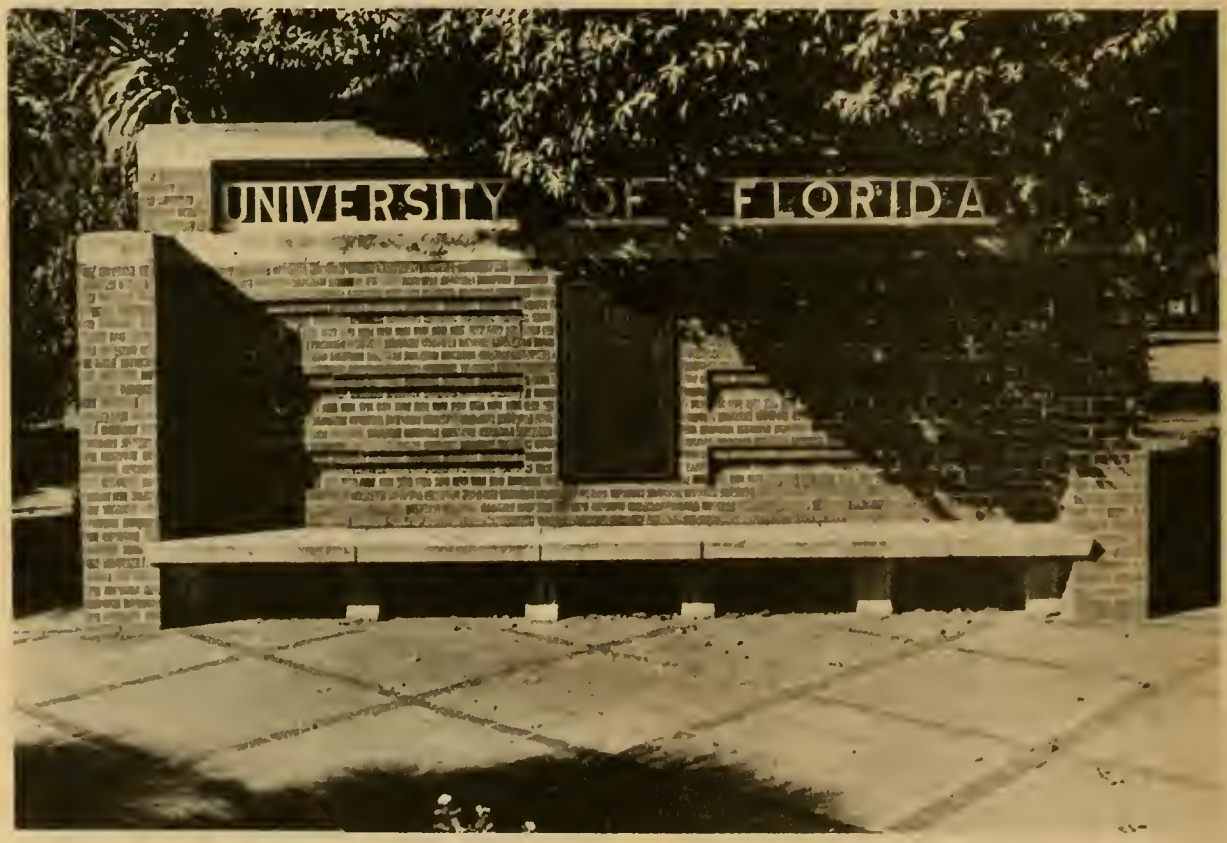

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President of the University of Florida Alumni Association

J. MALCOLM RANDALL, M.H.A.
Director of the Veterans Administration Hospital

HISTORICAL NOTE

The University of Florida is a combined state University and land-grant college located in the northern center of the State. While its beginnings go back to the days previous to Florida's admission to the Union in 1845, its first college — the College of Arts and Sciences — did not open until 1853. A few years later the passage of the Morrill Act provided lands for state institutions of higher learning which would promote agriculture, mechanical arts and military science, resulting in the beginnings of the College of Agriculture, the College of Engineering, and the Agricultural Experiment Station.

By 1905 there were a half-dozen state-supported institutions of higher learning in Florida, located in various parts of the State and struggling for existence. At that time the Florida Legislature took a step unprecedented in the history of education in any state by passing the Buckman Act, which abolished the six State Colleges and provided for the establishment of two new institutions, of which the University of Florida was one. It was established for men, at Gainesville, and placed under the direction of the Board of Control, a body created by the Buckman Act. The seven members of the board represented the seven geographical sections of the state, and served without compensation, except for travel and incidental expense incurred in the performance of duty. In 1947 the University was made coeducational. The nine-member Board of Regents replaced the Board of Control in 1965. An additional regent has represented students since 1977.

SETTING AND ENVIRONMENT

The University of Florida is located in Gainesville, a city of 83,000, situated in north central Florida, midway between the Atlantic Ocean and Gulf of Mexico. The city is known as an agricultural and small industrial center.

In addition to a moderate climate, Gainesville offers many other advantages to students of the University. A golf course is within easy reach of the campus, and swimming and boating accommodations are available at nearby springs and rivers. The lakes in the vicinity abound in fresh water fish, while the Atlantic Ocean and the Gulf of Mexico are within a two hours' drive. As the seat of Alachua County, the city is the focal point of diversified industrial and farming activities.

Practically every religious denomination is represented in the Gainesville area including: Presbyterian, Baptist, Lutheran, Methodist, Catholic, Episcopal, Christian, Seventh Day Adventist, Church of Christ Scientist, Church of Christ, Christian and Missionary Alliance, Advent Christian, Jewish, Church of Latter Day Saints, Church of the Nazarene, Assembly of God, Apostolic Church of Christ, Church of God, Disciples of Christ, Pentecostal Holiness, United Church of Christ, and Unitarian-Universalists. Several of these denominations maintain chapels adjacent to the campus. These include St. Augustine Chapel (Catholic Student Center), the Baptist Student Union, Wesley Foundation (Methodist Student Center), Chapel of the Incarnation (Episcopal Student Center), Church of Christ, B'nai B'rith Hillel Foundation (Jewish), the Lutheran Student Association, the Latter Day Saints (Mormon), Disciples-Presbyterian Student Center and the Society of Friends (Quaker). All the chapels carry on extensive programs of vital interest to University students.

TRANSPORTATION

A schedule of daily bus service, with connections to all points of the United States, is maintained by Southeastern Greyhound Lines and Trailways Bus System. Eastern Airlines serves Gainesville with daily flights with connections to all parts of the U.S. Charter Air and Air Florida serve all major areas of the state.

GOVERNMENT OF THE UNIVERSITY

Direct supervision over the University of Florida, its policies and affairs, is vested in the Board of Regents, a body composed of nine citizens from different regions of the state who are appointed by the Governor for nine-year terms. University affairs are administered by the president with the advice and assistance of the Administrative Council. The legislative body of the University is the University Senate.

ADMINISTRATIVE AFFAIRS

THE VICE PRESIDENT FOR ADMINISTRATIVE AFFAIRS is the chief business officer of the University. He is responsible for establishing policy relating to university business matters; coordinating the preparation of and control of the operating budget; collecting and disbursing funds in accordance with state statutes; managing campus security, auxiliary services and the maintenance of the physical plant and grounds; directing purchasing, the administrative computer, staff personnel and property control, and environmental health and safety.

ACADEMIC AFFAIRS

THE VICE PRESIDENT FOR ACADEMIC AFFAIRS is the chief academic officer for the University. In this capacity he supervises the allocation of resources in the academic areas, the improvement of instruction, the correlation of instructional activities, the development and improvement of research activities, the evaluation of university academic activity, and the establishment of policy with respect to employment, promotion, and tenure of the academic staff. In the absence of the President and Executive Vice President he acts with the authority and responsibility of the President.

STUDENT AFFAIRS

THE VICE PRESIDENT FOR STUDENT AFFAIRS presides over a six-unit organization employing 455 specially trained counselors and administrators and 1,200 student assistants to aid students in their education and career goals, from study help mini-classes to job placement, from health services to planned recreational programs, from financial aid to housing help and from individual counseling to leadership training classes. A complete section on Student Affairs follows in this catalog.

QUARTER SYSTEM

The University of Florida operates on a quarter system. In a twelve-month year there are four quarters, with each quarter averaging ten weeks of class instruction. Quarters begin in September, January, March and June. An academic year covers three quarters. In most colleges of the University, courses are scheduled in such a way that a student may enter in any quarter and proceed normally through an appropriate sequence of courses. Consult the individual college sections of the catalog to determine programs that begin only in designated quarters.

COLLEGES AND SCHOOLS

THE COLLEGE OF AGRICULTURE, a unit of the Institute of Food and Agricultural Sciences, offers curricula in all of the major fields of agriculture and grants the degree of Bachelor of Science in Agriculture. See Page 71.

THE COLLEGE OF ARCHITECTURE offers curricula in architecture, interior design, landscape architecture, urban and regional planning and building construction. It confers the degrees of Bachelor of Design, Bachelor of Landscape Architecture, and Bachelor of Building Construction; Master

of Arts in Architecture, Master of Arts in Urban and Regional Planning, and Master of Building Construction. See page 85.

THE COLLEGE OF BUSINESS ADMINISTRATION offers curricular programs leading to the degree of Bachelor of Science in Business Admininstration (See Page 95) and a Bachelor of Science in Accounting degree (see School of Accounting, Page 67).

THE COLLEGE OF DENTISTRY, an integral part of the J. Hillis Miller Health Center, graduated its first students in June, 1976. The College offers an innovative modular curriculum leading to the degree of Doctor of Dental Medicine and has initiated post-graduate programs in various dental specialities. See Page 100.

THE COLLEGE OF EDUCATION has curricula in elementary and secondary school instruction leading to the degrees of Bachelor of Science in Education or Bachelor of Arts in Education. It also provides an inservice program for the teachers of the state. The P. K. Yonge Laboratory School, a unit of the College of Education, enrolls pupils from the kindergarten through the secondary school. Undergraduate teacher preparation programs are NCATE approved and lead to certification at pre-school, elementary, and secondary levels in Florida and thirty other states where NCATE standards provide the basis for reciprocal agreements. See Page 101.

THE COLLEGE OF ENGINEERING offers curricula leading to the degree of Bachelor of Science in Chemical Engineering, in Civil Engineering, in Electrical Engineering, in Industrial Engineering, and in Mechanical Engineering. The Bachelor of Science in Engineering is awarded with majors in Aerospace Engineering, Agricultural Engineering, Ceramic Engineering, Engineering Sciences, Environmental Engineering, Metallurgical Engineering, Nuclear Engineering, and Systems Engineering. The Bachelor of Science degree is awarded with majors in Computer and Information Sciences, Nuclear Engineering Sciences, and Interdisciplinary Engineering Studies. The college also offers the Bachelor of Engineering Technology degree with a major in metals joining, and the Bachelor of Land Surveying degree. See page 113.

THE COLLEGE OF FINE ARTS offers curricula in the studio arts, history of art, crafts, graphic design, art education, music, music education, theatre, and dance and confers the degrees Bachelor of Design, Bachelor of Arts in Art, Bachelor of Fine Arts, Bachelor of Music, Bachelor of Music Education and Master of Fine Arts. See Page 131.

THE SCHOOL OF FOREST RESOURCES AND CONSERVATION is a unit of the Institute of Food and Agricultural Sciences. The School offers the Bachelor of Science in Forest Resources and Conservation Degree with majors in Forestry, Wildlife Ecology, and Resource Conservation. See page 141.

THE GRADUATE SCHOOL offers programs leading to the degrees of Doctor of Philosophy in 58 fields; Doctor of Education, Specialist in Education, Engineer, Master of Accounting, Master of Agriculture, Master of Agricultural Management and Resource Development, Master of Arts, Master of Arts in Architecture, Master of Arts in Education, Master of Arts in Health Education, Master of Arts in Journalism and Communications, Master of Arts in Physical Education, Master of Arts in Teaching, Master of Arts in Urban and Regional Planning, Master of Building Construction, Master of Business Administration, Master of Education, Master of Engineering, Master of Fine Arts, Master of Forest Resources and Conservation, Master of Health Education, Master of Laws in Taxation, Master of Health Science, Master of Nursing, Master of Physical Education, Master of Science, Master of Science in Building Construction, Master of Science in Nursing, Master of Science in Pharmacy, Master of Science in Statistics, Master of Science in Teaching, and Master of Statistics. All instruction is carried on by the faculties of the colleges and schools listed here.

THE COLLEGE OF HEALTH RELATED PROFESSIONS, a unit of the J. Hillis Miller Health Center, offers curricula leading to a Bachelor of Health Science with a major in Allied Health, Bachelor of Health Science in Clinical and Community Dietetics, Bachelor of Health Science in Medical Technology, Bachelor of Health Science in Occupational Therapy, and a Bachelor of Health Science in Physical Therapy. The College also offers a curriculum leading to the degree of Master of Health Science with a major in Occupational Therapy, and a Master of Health Science with a major in Rehabilitation Counseling, and a Ph.D., specializing in Clinical Psychology. See Page 145.

THE COLLEGE OF JOURNALISM AND COMMUNICATIONS offers curricula leading to the degree of Bachelor of Science in Journalism, Bachelor of Science in Advertising, and Bachelor of Science in Broadcasting. It offers sequences in public relations, technical communications and criminal justice public relations.

There are areas of specialization in reporting, editing, photojournalism, journalism education, broadcast news and public affairs, and broadcast production. See Page 155.

THE COLLEGE OF LAW offers a curriculum leading to the degree of Juris Doctor and a graduate program in taxation leading to the degree Master of Laws. See Page 163.

THE COLLEGE OF LIBERAL ARTS AND SCIENCES offers curricula leading to degrees of Bachelor of Arts and Bachelor of Sciences, with opportunities for specializing in many science and liberal arts fields. It offers the courses in mathematics, biological sciences, physical sciences, social sciences and humanities required in the curricula of the professional colleges. The College is the academic home for Freshmen and Sophomores while they prepare for admission to one of the other colleges. It provides courses in general education and awards the Associate of Arts Certificate. See Page 35.

THE COLLEGE OF MEDICINE, a unit of J. Hillis Miller Health Center, offers a curriculum leading to the professional degree of Doctor of Medicine. Ph.D. degrees in basic medical sciences are offered through the Graduate School. A special medical scientist training program leading to the combined degree of Doctor of Medicine-Doctor of Philosophy is available jointly through the College of Medicine and the Graduate School. A Bachelor of Science in medicine degree is offered to undergraduate students enrolled in the Physicians Assistant Program. See Page 164.

THE COLLEGE OF NURSING, a unit of the J. Hillis Miller Health Center, offers a curriculum leading to the Bachelor of Science in Nursing degree. The College also offers a curriculum leading to the Master of Nursing degree or a Master of Science in Nursing degree. See Page 167.

THE COLLEGE OF PHARMACY, a unit of the J. Hillis Miller Health Center, offers a curriculum leading to the degree of Bachelor of Science in Pharmacy and the Doctor of Pharmacy Degree. In addition the Ph.D. and M.S. degrees are offered in pharmaceutical sciences through the Graduate School. See Page 171.

THE COLLEGE OF PHYSICAL EDUCATION, HEALTH, AND RECREATION offers services and programs through the departments of General Physical Education, Professional Physical Education, Health Education and Safety, and Recreation. The department of General Physical Education provides programs for university students other than majors. The departments of Professional Physical Education, Health Education and Safety, and Recreation offer professional preparation programs leading to undergraduate degrees in physical education, health education, and recreation. Professional areas of preparation include: teachers of physical education or health education, health educators for public or voluntary agencies, and recreation directors. See Page 177.

THE COLLEGE OF VETERINARY MEDICINE, a teaching unit of the J. Hillis Miller Health Center, offers a curriculum leading to the professional degree of Doctor of Veterinary Medicine. See Page 185.

DIVISION OF CONTINUING EDUCATION

During the last year more than 32,000 people took advantage of the many University sponsored opportunities made available through the Division of Continuing Education. More than 25,000 people participated in non-credit con-

ferences, workshops, institutes and seminars. More than 5,297 students enrolled in Independent Study by Correspondence courses (both credit and non-credit). Over 1,300 students studied in credit extension classes throughout the State. Additionally, three international programs were offered through this Division last year. Backed by the resources of the University, the Division of Continuing Education sees the State as its campus and the people as its student body.

SPECIAL INSTRUCTIONAL UNITS SERVING ALL COLLEGES AND SCHOOLS

THE INTERCOLLEGE DEPARTMENT OF COMPUTER AND INFORMATION SCIENCES. During the last two decades electronic information processing machines with capability many orders of magnitude beyond their predecessors have come into being. Though still in their infancy they are already extending man's capability to solve problems in every field of human activity. Against this background, the organization of a curriculum dedicated to a broad sector of human endeavor was necessary. Toward this end the Intercollege Department of Computer and Information Sciences was created in 1971. The department currently offers degree programs in the Colleges of Liberal Arts and Sciences, Business Administration, Engineering and an area of specialization in the technical communications degree program in the College of Journalism and Communications. Degree programs within other colleges are under study.

Subject areas found within the CIS curricula include programming, systems analysis, software, devlopment techniques, information representation and transformation, language translators, operating systems, computer organization, and applications.

This background prepares the student for a wide range of careers in the business, industrial, scientific, civic and academic worlds wherein information flow and analysis is of critical importance to decision making.

In addition to the degree programs, several service courses are available for those who need experience in computer applications for proper career preparation. For further information, contact the CIS department office in 512 Weil Hall.

THE CENTER FOR LATIN AMERICAN STUDIES is the University unit responsible for directing or coordinating interdisciplinary instructional and research programs related to the Latin American area. It is a budgeted unit within the University and is administered by a Director immediately responsible to the Vice President for Academic Affairs.

The Center sponsors conferences, publishes the results of scholarly research related to Latin America, and cooperates with other University units in overseas development and training programs. It administers a program with Universidad de los Andes, Bogota, Colombia and a program in Brazil for the State University System and offers programs in Latin American Studies leading to a B.A. degree, and B.S., M.A. and Ph.D. Certificates in Latin American Studies; an interdisciplinary Master of Arts in Latin American Studies; and, a M.A. and Ph.D. Certificate in Latin American Demographic Studies.

The DEPARTMENT OF MILITARY SCIENCE offers the four year program and the two year program of Army ROTC. Completion of either of these programs by a student leads to being commissioned in one of the branches of the United States Army Reserve or the Regular Army. Freshman/Sophomore AROTC carries no service obligation. One, two, three and four year scholarships are available to interested students who can qualify.

THE DEPARTMENT OF NAVAL SCIENCE offers a two-year and a four-year program of Navy-Marine ROTC. Upon successful completion of this officer training program, the graduate receives a commission in the U.S. Navy or U.S. Marine Corps and is immediately assigned to active duty. Scholarships covering two, three, or four full years of study are available to male and female students who can qualify.

THE DEPARTMENT OF AEROSPACE STUDIES offers male and female students both two-year and four-year programs in Air Force ROTC. Completion of either of these officer education programs leads to a commission in the United States Air Force. Two, Three and Four year scholarships are available on a competitive basis to students enrolled in the program. Qualified individuals may compete for Pilot Training assignments and begin learning to fly during their Senior Year.

THE DEPARTMENT OF MUSIC has the responsibility for such musical organizations as the University Bands, Orchestras, Choruses, and Glee Clubs, and offers courses in the following areas: (1) Theory of Music, (2) Composition, (3) History and Literature, (4) Applied Music, (5) Church Music, (6) Music Education, (7) Opera Workshop and (8) Ensemble Music.

INSTRUCTIONAL SERVICE UNITS

THE OFFICE OF INSTRUCTIONAL RESOURCES encourages experimentation in teaching and individualized services to students. Reporting directly to the Office of Academic Affairs, it provides support for the innovation of alternative approaches to instruction in the colleges and departments of the University; assists faculty members in the development of instructional modules or systems for specific courses; and furnishes technical assistance in the development and use of teaching materials and media, analysis and improvement of teaching and the evaluation of student performance. Three units include an audio-visual materials center, testing and examination services, and an instructional improvement section.

Other units emphasizing individualized instruction include the Reading and Writing Center, the O.I.R. Teaching Center, Mathematics Laboratory and the Language Laboratory. Selected self-paced non-credit courses are available in reading, writing, study habits, tutoring and language skills. Research consultation, course enrichment and evaluation services are also offered to interested faculty.

THE OFFICE OF THE REGISTRAR has charge of the admission and registration of students, the maintenance of academic records, the scheduling of courses, and the issuance of transcripts of student records.

THE COUNSELOR TO FOREIGN AGRICULTURE STUDENTS. Foreign students in Agriculture are requested to contact the Office of International Programs in McCarty Hall. This office aids foreign students to integrate their American education more completely with actual conditions in their homelands and also gives information to all students interested in foreign agricultural problems and careers in the tropics.

UNIVERSITY OF FLORIDA LIBRARY SERVICE

The library consists of two central units, Library East and Library West, and branch libraries in the areas of Architecture and Fine Arts, Education, Engineering, Law, the Institute of Food and Agricultural Sciences, the J. Hillis Miller Health Center, Chemistry and the P.K. Yonge Laboratory School. In addition, reading room facilities have been provided for Business Administration, Journalism and Communications, Music, Physical Education, Health and Recreation, Physics and the dormitory areas.

The holdings of the libraries number over 2,000,000 cataloged volumes and a large number of uncataloged documents and newspapers. Many of the materials are in the form of microfilm and microcards. Among the special collections in the library system are the Rare Book Collection, the Belknap Collection for the Performing Arts, the P.K. Yonge Library of Florida History, the Marjorie Kinnan Rawlings Collection, which consists of manuscripts, typescripts,

and memorabilia of one of America's distinguished novelists, and the Collection of Creative Writing, which includes work sheets, manuscripts, and other literary papers of significant contemporary American and British Authors. In recent years, special emphasis has been placed upon strengthening the holdings of the Latin American Collection, especially for the West Indies and the Caribbean areas.

Reference service is provided in Library West and in the various branch libraries and reading rooms. A major collection of bibliographies and reference books and the union catalog are located on the first floor of Library West.

Photoduplication services are available. The regular schedule for the central libraries is Monday through Friday, 8:00 A.M. to 11:00 P.M.; Saturday, 10:00 A.M. to 5:00 P.M.; Sunday, 10:00 A.M. to 11:00 P.M. The libraries serving the various academic colleges and schools observe a similar schedule with variations.

THE FLORIDA STATE MUSEUM

The Florida State Museum was created by an act of the Legislature in 1917 as a department of the University of Florida. Through its affiliation with the University it carries the dual responsibility as the State Museum of Florida and the University Museum.

The Museum operates as a center of research in the natural sciences and anthropology. Its functions as an educational arm of the University are carried forward through interpretive displays and scientific and popular publications. Under the administrative control of the Director are the three departments of the Museum: Natural Sciences is concerned with the study and expansion of the research collections as well as research in a variety of areas in functional and evolutionary biology, sociobiology and ecology; Social Sciences is concerned with the study of human variation and cultures, both historic and prehistoric; Interpretation is concerned with the interpretation of knowledge through museum education and exhibit techniques. Members of the scientific and educational staff of the Museum hold dual appointments in appropriate teaching departments. Through these appointments they participate in both the undergraduate and graduate teaching programs and supervision of graduate students.

Scientific reports are published in the *Bulletin of the Florida State Museum, Biological Sciences*, the *Ripley P. Bullen Monographs in Anthropology and History*, and in the *Contributions of the Florida State Museum, Anthropology and History*.

The research collections are under the care of curators who encourage the scientific study of the Museum's holdings. Materials are constantly being added to the collections both through gifts from friends and as the result of research activities of the Museum staff. The archaeological and ethnological collections are noteworthy. There are extensive study collections of birds, mammals, mollusks, reptiles, amphibians, fish, invertebrate and vertebrate fossils, as well as archives of animal sounds associated with the bioacoustics laboratory.

Opportunities are provided for students, staff, and visiting scientists to use the collections. Research and fieldwork are presently sponsored in the anthropological, paleontological and zoological fields. Students interested in these specialties should make application to the appropriate teaching department.

Graduate assistantships are available in the Museum in areas of specialization emphasized in its research programs. Facilities are available for graduate students.

The Museum is located at the corner of Museum Road and Newell Drive in a modern facility completed in 1970. The public halls are open from nine until five each weekday, including Saturday, and from one to five on Sundays, and holidays (closed Christmas Day). There is no admission charge. The Museum is frequently used by University and public school classes. Classes for children and special public programs are also offered for members of the University community and the general public.

GENERAL STATE AND UNIVERSITY AGENCIES

THE FLORIDA COOPERATIVE EXTENSION SERVICE.

The transfer and application of knowledge through nonresident educational programs is the primary purpose of the Florida Cooperative Extension Service, a component of the Institute of Food and Agricultural Sciences. The educational programs are tailored to fit the needs of many audiences in areas of agricultural production, marketing and utilization; home economics; community resource development; natural resource management, 4-H youth development, and marine sciences. Audiences include adults and youth, rural and urban citizens, minorities and people from all economic levels. The Cooperative Extension Service is administered by the University of Florida under a memorandum of understanding with USDA. There is also a cooperative program funded through federal grants with Florida A&M University. The basic legislative authority makes provision for cooperation with local government. In Florida, county programs are carried out jointly between the University and respective county governments in the 67 counties. The Extension Service along with Resident Instruction and Research in IFAS form a functional model typifying the tripartite organizational structure envisioned in the Morrill Act for the Land Grant College system.

The OFFICE OF UNIVERSITY RELATIONS is responsible for the development of public relations, including visitor reception, cooperating with all campus agencies and organizations in the planning and implementation of their public relations activities and serving as the University representative with civic organizations which work with the University and are not professionally related to a particular school or college. University Relations coordinates with all campus agencies dealing with off-campus publics in a continuing effort to develop two-way communications with the public and to encourage public support and understanding of the University, its programs and higher education.

The DIVISION OF INFORMATION AND PUBLICATIONS SERVICES serves University academic units, departments, service offices and other campus-related organizations by distributing information through mass media outlets, and providing communication services for the campus community. It interprets the University's programs, policies and objectives through newspapers and magazines, radio and television broadcasts, motion pictures, publications, photographs, audio-visual presentations, special displays and exhibits, and community relations projects. The Division produces the *University Digest* printed in the *Independent Alligator*, and has complete video tape production facilities used to develop television programming for both commercial and public broadcasting stations. It assists other units with booklets, folders, brochures, and other printed material by coordinating copy content, design, and preliminary production, and assists in preparing bid specifications for printing.

The OFFICE OF DEVELOPMENT AND ALUMNI AFFAIRS is the campus headquarters for the University of Florida National Alumni Association, Inc. and the University of Florida Foundation, Inc.

The University of Florida National Alumni Association, Inc. brings together the organized efforts of alumni and the promotion of the interests and needs of the University and strives to encourage continuous participation by alumni in the life of the University.

The University of Florida Foundation exists to encourage support from the private sector to the University for both operating and capital purposes. It is a private corporation organized to hold funds for the benefit of the University, to invest them and to insure the maximum value of the University's private support.

THE UNIVERSITY GALLERY is an integral part of the Fine Arts college. The Gallery is located on the campus facing Southwest 13th Street (or U.S. 441). An atrium and a contemporary sculptural fountain are two pleasing features of the Gallery's distinctive architecture style. The Gallery, with 3000

square feet of display space, is completely modern, air-conditioned and maintains a varied exhibition schedule of the visual arts during the year. The content of exhibitions displayed in the University Gallery range from the creations by traditional masters through to the latest and most experimental works by the modern avant garde. The minor arts of yesterday and today along with the creations of oriental and primitive cultures form topics for exhibitions scheduled. Besides its regularly scheduled exhibitions, which show for approximately four to six weeks, the Gallery originates several unique exhibitions from its own and other museums' collections each year. The Gallery's hours are from 9 A.M. to 5 P.M. daily except Sunday when they are 1 P.M. to 5 P.M. The Gallery is closed on Saturdays and holidays.

ART DEPARTMENT GALLERY, the teaching gallery, is located adjacent to the Department's office area on the third floor of the Classroom Building (Bldg. 'C' AFA), in the Artchitecture and Fine Arts complex. As a direct and physical adjunct to the Art Department's teaching program this Gallery displays smaller traveling exhibitions of merit as well as one man shows by the faculty artists and student exhibitions. The Gallery is open Monday through Friday from 8 A.M. to noon and from 1 P.M. to 5 P.M. It is closed Saturdays, Sundays and holidays.

THE CENTER FOR LATIN AMERICAN AND TROPICAL ARTS is an interdisciplinary Center that provides coordination, direction, and focus to strfngthen existing programs related to the Fine Arts within the College of Fine Arts. The Center's faculty is bound together by a desire to relate their research and teaching activities to the broader concepts concerned with the fine arts of various world cultures. The Center broadens and strengthens existing interdepartmental relations and provides additional stimuli and mechanisms for translating results of research into more viable forms that relate directly to societal needs. It also establishes more effective lines for the training of able students at the undergraduate, graduate, and adult education levels in various aspects of the fine arts.

THE UNIVERSITY BROADCAST FACILITY is operated by the College of Journalism and Communications . It includes WUFT, Channel 5, a public broadcasting television station (PBS), WRUF-AM, the commercial radio station 850 KHz, and WRUF-FM, a commercial FM station, stereo, 103.7 MHz.

Approximately 100 students are employed in these broadcasting operations. Thus, in addition to the broad academic background provided in the university's classrooms and laboratories, these work opportunities provide a valuable experience in day-to-day operations typical of the industry. Students perform such functions as director, cameraman, and disc-jockey all under the guidance of professional broadcasters. The college has earned a nationwide reputation for the demonstrated effectiveness of this academic and work experience training.

WUFT telecasts programs of PBS, the Public Broadcasting Service, FPB, Florida Public Broadcasting Network, as well as local studio and remote originations. As a unit of the Florida Public Television Network, it both originates and receives programs of particular interest to the people of Florida.

WRUF-AM serves the contemporary music audience, while the WRUF-FM music ranges from show tunes to classical music, with a touch of progressive rock for the late night listener. WRUF-AM is affiliated with the NBC network; WRUF-FM is affiliated with CBS. Student communicators produce and broadcast regular news programs over both stations under faculty supervision. Students produce a continuing program of classical music that is broadcast on WRUF-FM each evening.

The student's proximity to, and participation in, this diverse broadcast operation brings a greater understanding of the opportunities and obligations that exist in the field of broadcasting.

THE UNIVERSITY OF FLORIDA PRESS

The Univerity of Florida is host to the state university system's scholarly publishing facility, *University Presses of Florida*. The goals of the systemwide publishing program implemented by University Presses of Florida are expressed in Board of Regents' policy:

> ". . . to publish books, monographs, journals, and other types of scholarly or creative works. The Press shall give special attention to works of distinguished scholarship in academic areas of particular interest and usefulness to the citizens of Florida. The Press shall publish original works by state university faculty members, but it may also publish meritorious works originating elsewhere and may republish out-of-print works."

Each university's faculty publishing committee is independently responsible for selecting works for publication through the facilities of University Presses of Florida. At the University of Florida, the University Press Board of Managers oversees the locally determined publishing program.

The purpose of the University of Florida Press is to encourage, seek out, and publish original and scholarly manuscripts which will aid in developing the University as a recognized center of research and scholarship.

In addition to its broad range of state, regional, and Latin American titles, the Press publishes books of general interest and five separate series in Floridiana, gerontology, humanities, Latin America studies, and social sciences.

The Press Board of Managers, including the director and fifteen faculty experts appointed by the President of the University, determines policies of publication relating to the acceptance or rejection of manuscripts and the issuance of author contracts. Each year the board examines numerous manuscripts submitted not only by the University faculty but by authors from all over the United States, Europe, and Latin America.

University Presses of Florida is a member of the Association of American University Presses and of the Association of American Publishers, Inc.

Students and members of the faculty and staff are cordially invited to visit the Press offices at 15 N.W. 15th Street, adjacent to the campus.

ORGANIZED RESEARCH

THE DIVISION OF SPONSORED RESEARCH was established by an act of the legislature to support and to foster sponsored research and training as a resource essential to excellence in education and to provide maximum service to the State. The Division is a development arm of the University, coordinating its efforts closely with the Office of Academic Affairs. The Dean of the Graduate School also serves as Director of the Division of Sponsored Research.

All proposals for sponsorship of research, grants-in-aid, and training grants are approved by the director. Negotiations on administrative matters with potential contracting agencies or sponsors of research and training projects are carried out by the Division.

The activities of the Division of Sponsored Research are intended to stimulate growth and to assist in expanding a balanced research and training program throughout the University. These activities are intimately related to the support of the graduate and professional program. The services provided are designed to relieve the principal investigators in many departments of detailed administrative and reporting duties connected with some sponsored programs. The duties and responsibilities of the Division, of course, do not supplant the prerogative of the principal investigator who seeks sponsors for his own project nor upon the responsibility of the investigator for the scientific integrity of the project. In direct contacts between a principal investigator and a potential sponsor, however, coordination with the Division is necessary to insure uniformity in contract requirements and to avoid duplication of negotiations with the same sponsor.

The Director of the Division of Sponsored Research is administratively responsible to the Vice President for Academic Affairs. Policies and procedures for the Division are developed by a board of directors working with the director within the general framework of the administrative policies and procedures of the University.

General

GENERAL INFORMATION

THE AGRICULTURAL EXPERIMENT STATIONS, an organizational division of the Institute of Food and Agricultural Sciences, is responsible for the IFAS research mission of solving problems confronting a wide array of agricultural industries, urban agriculture (horticulture) and the management of natural resources in the State. Research is administered by the Dean for Research located on the University of Florida campus. He works through 21 departments, 8 Agricultural Research and Education Centers and 15 Agricultural Research Centers.

Results of IFAS research are published in scientific journals, bulletins, monographs, circulars, mimeographed reports and the *Sunshine State Agricultural Research Report* and are available to Florida residents usually without charge upon request to the Editorial Department of the Agricultural Experiment Station at Gainesville. The Agricultural Experiment Station cooperates closely with the Agricultural Extension Service in providing research findings for prompt dissemination.

IFAS research is conducted within 21 departments—Agricultural Engineering, Agricultural and Extension Education, Agronomy, Animal Science, Botany, Dairy Science, Entomology and Nematology, Food and Resource Economics, Food Science and Human Nutrition, 4-H and other Youth programs, School of Forest Resources and Conservation, Fruit Crops, Home Economics, Microbiology and Cell Science, Ornamental Horticulture, Plant Pathology, Poultry Science, Soil Science, Statistics, Vegetable Crops and Veterinary Science (College of Veterinary Medicine). In addition to the above the Main Station has six units vital to its research programs, namely: Editorial, Library, Business Service and Centers for Rural Development and Environmental Programs.

In order to best serve the varied needs of Florida's diversified agriculture, Agricultural Research and Education Centers are located at numerous locations having different climatic conditions, soil types and crops. Intensive research is conducted in all fields of agriculture such as citrus, vegetable, field crops, livestock, pastures and many others.

The Agricultural Research Centers and their locations are as follows: Monticello, Brooksville, Ft. Pierce, Immokalee, Dover, Ft. Lauderdale, Hastings, Ona, Apopka, Marianna, Live Oak, Leesburg, Lakeland, Jay and Ocala.

The Agricultural Research and Education Centers and their locations are as follows: Homestead, Belle Glade, Brandenton, Lake Alfred, Quincy, Sanford and Tallahassee (Florida A and M University). A Research and Education Center is also located at Welaka, Florida and is concerned largely with biological research programs and youth programs.

The Florida Agricultural Experiment Station is cooperating with the Brooksville Beef Cattle Research Station, Brooksville, a USDA field laboratory, in its beef cattle and pasture production and management programs, and with the National Weather Service, Ruskin, in the Federal Frost Warning Service for fruit and vegetable producers and shippers, as well as cooperating with numerous Florida agricultural agencies and organizations.

THE FLORIDA ENGINEERING AND INDUSTRIAL EXPERIMENT STATION (EIES) developed from early research activities of the engineering faculty and was officially established in 1941 by the Legislature as an integral part of the College of Engineering. Its mandate is "to organize and promote the prosecution of research projects of engineering and related sciences, with special reference to such of these problems as are important to the industries of Florida."

The College and the Station form a close interlocking relationship with the EIES serving as the research arm of the College. In this capacity the EIES fulfills its function of conducting research on many of Florida's most significant problems ranging from energy to water resources, environmental issues to health-related activities. Of course many of these problems transcend the State and are also of national concern. The Station has developed a national and international reputation in many areas and the faculty are at the forefront of their fields. This has a major positive impact on the College since it makes good teaching possible, exposes students to many important engineering problems normally not encountered in a college program, and helps the faculty better instill students with the qualifications necessary for the successful practice of their profession. Moreover, both undergraduate and graduate students frequently find employment on research projects.

The Station receives a small but important portion of its operating funds from the State; this funding base results in a near 10 for 1 return from contracts and grants with government agencies, foundations and industrial organizations. The Station has excellent facilities and faculty in many diverse fields; a few such examples are; solar energy, bioengineering, energy conservation and conversion, ceramics, new materials development, photovoltaics, robotics, soil mechanics, transportation research, coastal and oceanographic engineering, microelectronics, air and water pollution control, nuclear pumped lasers, systems analysis, fluid dynamics and hydrology, technology for enhanced oil recovery, lightning research.

THE BUREAU OF RESEARCH is a unit of the College of Architecture established to foster and encourage research related to the disciplines represented in the college. These include architecture, building construction, landscape architecture, interior design, and urban and regional planning. The Bureau also provides assistance to faculty and graduate students in establishing cooperative efforts with other units of the University.

THE BUREAU OF ECONOMIC AND BUSINESS RESEARCH is the Research Division of the College of Business Administration. A part of the work of the Bureau is to provide economic and business information about Florida. A major source of this information is the FLORIDA STATISTICAL ABSTRACT published annually by the Bureau. The Bureau, through its Division of Population Studies, makes annual estimates of population by city and county in Florida as well as providing other data on the components of population and growth. By published reports of special research and through the monthly Economic Leaflets (sent free to any resident of Florida upon request), quarterly release of Population Studies, Business and Economic Dimensions, and Florida Outlook and special reports, the results of research work are available to all residents of Florida. Consultant services are rendered to the business community, civic groups, and government. The Bureau makes it possible for teaching professors to engage in organized research and provides research training for graduate students.

THE PUBLIC ADMINISTRATION CLEARING SERVICE is a research, publication, and service adjunct of the Department of Political Science in the College of Arts and Sciences. It carries on a continuous program of research on public administration and public policy in Florida; it publishes research and surveys of governmental and administrative problems in both scientific and popular monograph form. In addition, the Public Administration Clearing Service coordinates the programs of instruction and public service training in cooperation with other units of the University.

THE COMMUNICATION RESEARCH CENTER OF THE COLLEGE OF JOURNALISM AND COMMUNICATIONS conducts research in the news media, in broadcasting, advertising, and public relations.

THE DIVISION OF PLANNING AND ANALYSIS performs the analysis and does the planning required to ensure that available resources will be used to accomplish the goals of the many and diverse programs of the University of Florida at minimum long-range cost. Work is carried out by the staff and related committees in the areas of campus planning, budgeting, space assignment, coordination of architectural design and construction of facilities.

THE FLORIDA WATER RESOURCES RESEARCH CENTER, which is funded by the Department of the Interior, was established in 1964 at the University of Florida as the result of the passage of P.L. 88-379—The Water Resources Research Act of 1964—"to stimulate, sponsor, provide for, and supplement present programs for conduct of research, investigation, experiments, and the training of scientists in the fields of water and of resources which affect water." The Center's Director operates under the general policy guidance of an

advisory committee appointed by the President of the University. Research projects administered by the Center and pertaining to the achievement of adequate statewide water resource management, water quality and water quantity are being conducted by professors in various departments at the University of Florida, and other colleges and universities in the State. Graduate assistants may be employed on these projects or other activities of the Center.

COMPUTATIONAL FACILITIES

In addition to numerous small digital and hybrid computers located on the campus, the University of Florida houses the central facilities of the Northeast Regional Data Center (NERDC) of the State University System of Florida. Facilities available to students, faculty, and staff include an Amdahl system 470 V/6-II computer (running under OS/MVS with JES2) with eightt megabytes of high-speed main memory, more than 34 IBM 3350 disk drives, 8 IBM 3330 disk drives, ten 9-track tape drives, one 7-track tape drive, and 2 IBM 1403 high-speed printers.

NERDC provides facilities for cards, magnetic and paper tape, disks, graphics, and Computer-Output Microfiche. NERDC supports batch processing, 200 high-speed cathode ray tube terminals, and more than 300 low-speed interactive terminals serving almost all areas of the campus. These terminals may be used for APL/SV, BASIC, WATFIV, ATS, CICS, interactive file generation and editing. Batch stations at several locations on campus may also be used for batch submission and retrieval. Graphic output is available through a Gould S100 electrostatic plotter operated by NERDC for the University of Florida.

Extensive software support is provided for batch processing supporting the major high-level languages and a large number of program packages and special-purpose languages. Among these are FORTRAN, ASSEMBLER, COBOL, PL/1; MARK IV and EASYTRIEVE file handlers and report generators; student-oriented compilers and interpreters including WATFIV, PL/C, ASSIST, WATBOL; most major statistical packages including SPSS, BMDP, SAS; text-editing programs such as TEXT360, ATS, SCRIPT, and FORMAT; simulation languages; several libraries of scientific and mathematical routines including IMSL and the HARWELL library; a large number of program packages and special-purpose languages, plotting software; mini and micro computer support; and many others.

NERDC is a State University System support facility for all areas of campus and for other state educational institutions in northern Florida. The NERDC facilities are used for administrative, instructional, and research computing. The organizations directly responsible for computing at the University of Florida are the Shands Teaching Hospital Data Processing Division, University of Florida Administrative Computing Services, the Center for Instructional and Research Computing Activities at the University of Florida (CIRCA-UF) and the Institute of Food and Agricultural Sciences (IFAS). Access through NERDC to four other regional data centers in the State is available through the State University System Computer Network. More information about the NERDC is available through its Guidebook for New Users, user manuals, and its monthly newsletter, /Update.

The Center for Instructional and Research Computing Activities at the University of Florida (CIRCA-UF) cooperates with NERDC to provide computing services for University of Florida students and faculty. CIRCA provides consulting, programming, equipment repair, data-entry services, open-shop unit-record equipment, interactive terminals, and remote batch terminals; and plotting facilities through Gould 5100 Electrostatic and Printonix dotmatrix plotters. High-speed batch input/output facilities are available at four campus locations, with open-shop keypunches near each. Open-shop terminals and consulting services are available in Weil Hall for the academic community. There is also a professional data-entry staff.

In cooperation with NERDC and CIRCA, the UF Library offers extensive Census data services.

INSTITUTE OF FOOD AND AGRICULTURAL SCIENCES

THE INSTITUTE OF FOOD AND AGRICULTURAL SCIENCES is the University of Florida's statewide agricultural research and educational organization. IFAS programs extend into every county, and reach people in virtually every community in Florida.

The primary mission of IFAS is to help Florida realize its maximum potential for agricultural development, and to contribute to the solution of many social, economic, environmental and cultural problems of concern to the people of the state. This vital developmental mission is carried out through the three functions of resident instruction, research, and extension. These are carefully interrelated to provide a highly coordinated effort for the benefit of Florida — its citizens and its industry. This effort is guided by the Vice President for Agricultural Affairs.

The offices of the Vice President, as well as the Deans for Resident Instruction, Research and Extension are located near the center of campus in McCarty Hall. Administrative offices of the School of Forest Resources and Conservation are located in Newins-Ziegler Hall.

The resident instruction programs conducted through the College of Agriculture and the School of Forest Resources and Conservation, are concerned with educating young men and women for the nation's growing and increasingly complex agricultural industry. The curricula for the different fields of study are structured to provide the business, technological and science education necessary for graduates to meet the ever changing needs of a diverse and highly specialized agriculture, as well as related business and industry. All academic departments offer an undergraduate program leading to a Bachelor of Science in Agriculture. The School of Forest Resources and Conservation offers an undergraduate program which leads to the Bachelor of Science in Forest Resources and Conservation. Graduate programs at the masters level are offered by all academic units. The Doctor of Philosophy degree is offered in 13 specialities.

The mission of the IFAS research programs is one of development, as well as improving existing technology to enable Florida's agricultural industry to become more efficient, particularly in reducing dependence on consumption of fossil fuels; to improve consumer health and nutrition and to improve the social and economic well-being of producers and consumers of agricultural commodities and resources. Through the vast network of 23 research and education centers, located in various areas of the state, applied as well as basic research efforts develop new and improved technology to meet the agricultural needs of Florida.

The Florida Cooperative Extension Service is administered by IFAS in cooperation with the several Boards of County Commissioners in the state and the U.S. Department of Agriculture. Extension offices in all 67 counties are responsible for the transfer and application of knowledge through non-resident educational programs. These programs are tailored to fit the needs of the many audiences in agricultural production, marketing and utilization; home economics; community resource development, and marine sciences. Audiences include adults and youth, rural and urban citizens, minorities and people from all economics levels.

In 1972, the Center for Community and Rural Development was established to provide statewide coordination of research and education programs in community development for rural and non-rural metropolitan areas. This center is concerned with improving the economic conditions in these areas so that people have better employment opportunities and will remain in small communities rather than migrate to cities. Through support of undergraduate and graduate education the Center is assisting in the training of young people to provide leadership in planning and developing local programs. Courses of study in the economics of environmental quality, natural resource planning and development, rural income and employment, and regional economic planning help them make definite contributions toward improving the economic and social conditions of non-urban areas.

GENERAL INFORMATION

The Center for Environmental Programs and Natural Resources was created in October, 1973, to provide statewide coordination for the IFAS research and education programs concerned with solving some of the serious environmental and natural resources problems related to agriculture throughout Florida. The Center is involved in developing ways to protect managed agriculture ecosystems from environmental damage, integrating environmental practices into agricultural production technology and protecting and enhancing the quality of all of Florida's environment.

The creation of an Office of International Programs in 1966, formalized the international commitment of IFAS. The Office of International Programs is responsible for administration, coordination and development of all activities which build or strengthen the international dimension of IFAS. This includes participation in the determination of contract and grant policy, development of outside funding sources for international research and training projects, and assistance in the initiation of new education programs. Integration of international programs into each department is a specific objective. This provides a unique opportunity for focusing maximum resources available on the project. Both faculty in the state and those overseas benefit by the interchange of ideas. Education and research is handled under the same office by the Center for Tropical Agriculture established in 1965.

THE J. HILLIS MILLER HEALTH CENTER

The J. Hillis Miller Health Center at the University of Florida in Gainesville serves the entire state through four major dimensions of activity: the provision of modern health care for both people and animals, the education of future health professionals, research to expand knowledge of disease and to improve treatment, and a wide variety of outreach health care projects.

The 20-year old complex includes the Colleges of Dentistry, Health Related Professions, Medicine, Nursing, Pharmacy and the new College of Veterinary Medicine.

The Shands Teaching Hospital, recently granted official status as a private non-profit corporation, continues to serve as a major referral center for modern patient care and clinical training of students in the health professions.

The north expansion of the Health Center's building program, the Communicore Building, became operational in 1974 and houses teaching laboratories, animal quarters, lecture halls, a library and a learning resources center. New facilities for the College of Dentistry became operational in 1975. As part of the Health Center complex, new facilities for the College of Veterinary Medicine were phased into operation in late 1977 and early 1978. The facilities include the Veterinary Medical Teaching Hospital and Clinics where the state's practicing veterinarians may refer animal patients with rare or complicated diseases.

A Veterans Administration Medical Center across from the Health Center is engaged in programs of patient care, teaching and research which are affiliated with the programs in the Health Center's colleges.

The Jacksonville Health Education Programs, Inc. which offers educational opportunity in clinical fields to students of the Health Center's colleges is an official division of the University of Florida.

The academic programs of the Health Center prepare students to understand that tomorrow's health care must focus on the community in order to achieve the comprehensive health care of man. The programs help them to understand that health care involves the health team: the physician; the nurse; the dentist; the pharmacist; persons in health related professions; the community; the researcher; the educator; the counselor; that by training together, and later by working together, these men and women contribute more effectively to a person's well being.

The health-oriented professions exchange information within the Health Center, and draw upon the other resources of the University to further man's understanding of health and illness.

Since the opening of its first units — the Colleges of Medicine and Nursing — in 1956, the Health Center has become a leading center for health care, education and research in the Southeast.

Located on the southern edge of the University of Florida campus, the Health Center was named for Dr. J. Hillis Miller, late president of the University whose vision and determination helped formulate the early planning of the health complex as an integral part of the University.

ADMISSIONS

APPLICATION FOR ADMISSIONS

Application for admission to any undergraduate College, School or Division of the University must be made to the Admissions Section of the Office of the Registrar on the forms prescribed and by the dates indicated below. It is quite proper to correspond with Deans, Directors or Department Chairmen, but such contact with University officers does not in any way eliminate the necessity for filing a formal application in the Office of the Registrar by the dates specified.

How to Apply: An applicant should address a request to the Admissions Section, Office of the Registrar, University of Florida asking for application forms. Forms and directions for completion of applications vary with the level of entry at the University and the applicant should indicate that forms are being requested for admission as a Freshman, Undergraduate Transfer, Graduate, Dental, Law, Medical, Veterinary Medicine, or Special student, as the case might be.

GENERAL STATEMENT

The University encourages applications from qualified applicants of both sexes from all cultural, racial, religious, and ethnic groups. The University does not discriminate on the basis of handicap in admission or access to its programs and activities. Both the Educational Testing Service (SAT) and The American College Testing Program (ACT) have brochures describing special testing arrangements for handicapped applicants and there are alternate admissions procedures for handicapped applicants who are unable to take the required tests.

A brief summary of the general requirements for admission or readmission to any college or division of the University is given below:

1. A satisfactory academic record
2. Satisfactory scores on achievement tests or examinations as noted
3. A satisfactory conduct record

The specific requirements for readmission (at the same or a different level) of a student previously enrolled at the University of Florida are given in the STUDENT REGULATIONS section of this catalog. Consult the index for page number.

The specific requirements for admission to the University of Florida for the first time as a Freshman, Undergraduate Transfer, Graduate, Dental, Law, Medical, Veterinary Medicine, or Special student may be found in the appropriate sections which follow. **It should be understood, however, that minimum requirements are given and that admission to the University is a selective process. The satisfaction of minimum requirements does not automatically guarantee admission. Under Board of Regents policy up to ten per cent of the students admitted during the academic year at any level may be admitted as exceptions to the minimum requirements. The University Admissions Committee is the agency at the University of Florida that is responsible for the admission of undergraduate students under this exception policy. For additional information regarding this policy, contact the Minority and Disadvantaged Admissions Officer, Office of the Registrar.**

The admission requirements have been arrived at after a very careful study of the experiences of thousands of students over a long period of years. In every case minimum requirements have evolved from studies of student performance at the University of Florida. These studies have had as a primary objective the identification of factors that would indicate a reasonable chance for successful completion of University of Florida work.

The University Admissions Committee is the agency responsible for administering all admissions to the University and its various components.

Students who are planning to enter the University of Florida for the first time will be considered for admission as follows:

1. *Beginning Freshmen:* students who have never attended college. (See following section, ADMISSION AS A FRESHMAN).
2. *Undergraduate Transfers:* students who have previously attended any college or university, regardless of amount of time spent in attendance or credit earned, but who have not received a bachelor's degree. (See following section, ADMISSION AS A TRANSFER STUDENT TO UNDERGRADUATE SCHOOLS AND COLLEGES).
3. *Graduate Students:* candidates for Master's or Doctor's degrees. (See following section, ADMISSION TO GRADUATE SCHOOL).
4. *Dental Students:* candidates for admission to the College of Dentistry. (See following section, ADMISSION TO THE COLLEGE OF DENTISTRY).
5. *Law Students:* candidates for admission to the College of Law. (See following section, ADMISSION TO THE COLLEGE OF LAW).
6. *Medical Students:* candidates for admission to the College of Medicine. (See following section, ADMISSION TO THE COLLEGE OF MEDICINE).
7. *Veterinary Medicine Students:* candidates for admission to the College of Veterinary Medicine. (See following section, ADMISSION TO THE COLLEGE OF VETERINARY MEDICINE).
8. *Special Students:* applicants who do not fall in one of the above categories. (See following section, ADMISSION AS A SPECIAL STUDENT).
9. *Transient Students:* applicants who wish to enroll for one term only in order to complete work for transfer back to parent institution. (See following section, ADMISSION AS A TRANSIENT STUDENT).

TRAVELING SCHOLAR PROGRAM

The Traveling Scholar Program affords graduate students at State University System institutions an opportunity to take course work or conduct research activities at any of the other institutions in the System. Course work taken under the auspices of the Traveling Scholar Program at another university in the System will apply for graduate credit at the student's home institution. The deans of the graduate schools of the State universities are the coordinators of the Program. For details regarding the Traveling Scholar Program and approval to participate in it, a student must apply to the dean of the graduate school on his home campus.

UNDERGRADUATE INTERINSTITUTIONAL REGISTRATION PROGRAM

The Undergraduate Interinstitutional Registration Program enables students at State University System institutions to take advantage of special resources and programs available on another campus in the System but not available at their home institution, e.g., special course offerings, research opportunities, unique laboratories, overseas study programs, and library collections. Course work taken under the Undergraduate Interinstitutional Registration Program will be accepted for credit at the student's home institution. A student must be recommended to participate in the Program by his own academic dean, who will initiate a visiting arrangement with the appropriate dean at the host institution.

PERSONAL HEALTH HISTORY REQUIREMENT

A personal health history completed by you and reported on forms supplied by the University Physician are required

prior to initial enrollment at the University of Florida. If your application for admission is approved, the health history form will be forwarded to you for you to complete and return to the University Physician. Your form should be received by the University Physician at least two weeks prior to your planned date of entrance.

ADMISSION AS A FRESHMAN

(APPLICANTS WHO HAVE NEVER ATTENDED COLLEGE)

When to Apply: No application will be considered for the Freshman Class more than one year in advance of the date on which entrance is sought. The best time to apply is the early part of the Senior year in Secondary School. Priority in admission to the September class will be given to qualified applicants whose applications are received in the Admissions Office prior to March 1st. Applications for the September class received after March 1st will be considered on a "space available" basis only. The deadlines for receipt of applications for other terms are listed in the University Calendar.

Admission of students is on a selective basis. The availability of community junior colleges and other state universities in Florida has caused the Board of Regents to assign to the University of Florida a role in the total state system of higher education which demands that the entering Freshman Class be limited in number. Such limitation does not prevent students from subsequently applying for admission to upper division and professional schools of the University since they may attend junior colleges or other universities and if qualified, then transfer to the University's upper division colleges in accordance with rules printed elsewhere in this Catalog.

The requirements for admission set forth below are designated to give priority to those applicants whose potential on the basis of their record indicates the greatest likelihood of success and the obtaining of maximum benefits from the Lower Division program at the University of Florida.

A. Requirements for admission — Florida students

For consideration a student must meet the following minimums:

1. Graduation from an accredited secondary school.
2. Twelve academic units in college preparatory courses such as English, Foreign Languages, Mathematics (beginning with Algebra), Natural Sciences, and Social Sciences.
3. An overall "C" average in academic courses.
4. A total score of at least 800 on the Scholastic Aptitude Test (SAT) or a composite score of 17 or above on the American College Testing Program (ACT).
5. A record of good conduct. Major or continuing difficulty with school or other authorities may make an applicant ineligible regardless of academic qualifications.

Any Florida student who meets the above minimum admission requirements and is interested in attending the University of Florida is urged to submit an application. The University will do everything possible to accept all qualified applicants who apply before the application deadline date. If the number of qualified applicants exceeds the number that the University is permitted to enroll, admission will be on a selective basis. An applicant's total high school record including grades, test scores, educational objective and pattern of courses completed, rank in class, school recommendation and personal record will be considered in the selection process.

Composite pictures of recent Freshman classes at the University of Florida indicate that approximately 70 percent rank in the top 20 percent of all high school Seniors on the basis of their admissions test scores. Approximately 50 percent of each entering class has earned a "B" or better average in high school academic subjects. While there is no minimum grade average or test score which in itself assures a student of admission or success in college, prospective Freshmen are urged to discuss the meaning and implication of these data with their school counselors before deciding whether to apply for admission to the University of Florida.

B. Requirements for admission — Non-Florida Students.

Because of a limited entering Freshman class each September, only a small number of highly qualified students from states other than Florida may be admitted. The minimum requirements for consideration are essentially the same as for Florida students except that priority in consideration for admission will be given to those applicants who present scores of at least 500 on each section of the Scholastic Aptitude Test of the College Entrance Examination Board and an academic average of "B" or better.

OTHER INFORMATION OF INTEREST TO PROSPECTIVE FRESHMAN APPLICANTS

OPPORTUNITIES FOR ACCELERATING COLLEGE GRADUATION

Early Admission

Applications for Early Admission (i.e. admission following completion of the Junior year in high school) from superior students are encouraged and will be considered on an individual basis by the University's Admissions Committee. Applications should be submitted in accordance with deadlines published in the University Catalog.

In addition to the application, the following items are needed for processing Early Admission applicants.

1. A written statement by the student setting forth reasons for requesting early admission.
2. An official transcript of the applicant's secondary school record covering the 9th, 10th and 11th years. Generally, an overall academic average of B+ is expected.
3. Results of either the Scholastic Aptitude Test (SAT) or the American College Testing Program (ACT). Generally, a score of approximately 600 on each section of the SAT or a composite score of 28 on the ACT is expected.
4. A letter of recommendation from the student's high school principal or guidance counselor. The letter should give specific reasons as to why the applicant would profit more from Early Admission than by completion of the Senior year in high school.

An applicant for Early Admission may be required to come to the campus for interviews by members of the Admissions Committee before a decision is made on the application. The Admissions Office will advise the applicant if interviews will be required after all of the above items have been received and evaluated. IMPORTANT: Please note that an applicant should NOT report for interviews until advised by the Admissions Office.

The University of Florida provides numerous opportunities other than *Early Admission* by which a student may accelerate graduation. For additional information, please refer to the section of this catalog entitled *Time Shortened Degree Opportunities.*

Candidates' Reply Date. Applicants accepted for admission to the September Freshman class must indicate their enrollment plans within 30 days after acceptance.

Advance Housing Payment. Entering freshmen are required to make a housing deposit within 30 days after acceptance if they desire to live in University housing. The housing deposit, less a $10.00 service charge, is refundable until May 1st for applicants accepted for admission to the September Freshman Class.

Admission with Advanced Standing. The University of Florida is a participant in the Advanced Placement Program and in the College Level Examination Program (CLEP) of the College Entrance Examination Board. Under the Advanced Placement Program a student entering the University offers a nationally graded examination as evidence of completion of a college level course taken in high school. Depending on

the results of the examination, the student may receive University credit for courses covering similar material or exemption from such courses without credit. Under the College Level Examination Program, the University grants credits for satisfactory scores in each of the five areas of the CLEP General Examinations. For further information, please refer to the section of the Catalog entitled *Time Shortened Degree Opportunities.*

Early Decision for Superior Students. Students with superior secondary school records (academic average at least 3.5) and Junior year high school SAT test scores (approximately 600 each on the verbal and mathematics sections) may apply for early decision. The student must certify that this is his only application and this statement must be supported by the signatures of his parents and appropriate school official. The completed application must be received by November 1, and, if admitted, the student must make his commitment to attend the University of Florida, accompanied by his housing payment, by December 1.

ADMISSION AS A TRANSFER STUDENT TO UNDERGRADUATE SCHOOLS AND COLLEGES

(APPLICANTS WHO HAVE ATTENDED ANY COLLEGE OR UNIVERSITY, REGARDLESS OF THE AMOUNT OF TIME SPENT IN ATTENDANCE OR CREDIT EARNED, ARE CONSIDERED AS TRANSFER STUDENTS.)

When to Apply: Applications may be submitted not more than one year in advance and applicants are strongly urged to apply at least six months prior to the date they plan to enter. Applicants for admission to the Colleges of Health Related Professions, Nursing, Pharmacy, and the Physician's Assistant Program of the College of Medicine should consult the individual college's section of this catalog for specific information regarding application deadlines. Applicants for admission to all other colleges should consult the University Calendar published in this catalog for information regarding the application deadline date for each term. An applicant who waits until the last possible date to file an application may find that it is impossible to furnish the necessary supporting records in time to permit a decision for the term that admission is desired. NOTE: In the undergraduate programs in the College of Health Related Professions, the College of Pharmacy, and The Physician's Assistant Program, the sequence of professional courses begins ONLY in the Fall Quarter of the Junior year.

In this section are listed the general requirements for admission of undergraduate transfer students. It should be observed however, that ADMISSION TO THE UNIVERSITY IS A SELECTIVE PROCESS AND SATISFYING THESE GENERAL REQUIREMENTS DOES NOT GUARANTEE ACCEPTANCE. Attention is also directed to the fact that Upper Division colleges of the University have established enrollment quotas because of limitations of space and facilities. Transfer applicants who meet the minimum admission requirements will be referred to the selection committee of the appropriate college for consideration of their enrollment within the college's established quotas.

A transfer applicant should refer to the General Information and Colleges sections of this catalog for an explanation of the academic organization of the University.

If an applicant is accepted for admission, courses which reasonably parallel the curriculum of the University of Florida that were completed with grades of "D" or higher at other accredited institutions are acceptable for transfer credit. It is the prerogative of the college (within the University) that administers the work for the degree being sought to determine how transfer credit may be used in satisfying that degree's specific course requirements. Not more than 64 semester hours (or 96 quarter hours) of credit transferred from or through a junior college may be applied toward the total credit hours requirement for a University of Florida degree. Courses completed at a junior college in excess of a total of 64 semester hours may serve to meet specific course requirements for a University of Florida degree but the credit hours represented by those courses will not reduce the number of credit hours to be completed at the University. That is, once a student has accumulated 64 semester hours (96 quarter hours) no work at a community college may be used in meeting University of Florida degree requirements.

A. FLORIDA PUBLIC JUNIOR COLLEGE GRADUATES

This section applies ONLY to students seeking to transfer directly from a Florida public junior college with the Associate in Arts degree in a university parallel program. All other junior college applicants and undergraduate transfer applicants from four-year or upper division colleges and universities should consult Section B which follows.

The University of Florida subscribes to the Articulation Agreement between the State Universities and Public Junior Colleges of Florida. Under this agreement, any graduate of a State approved Florida public junior college is eligible for admission to the University if the student has completed the university parallel program and received the Associate in Arts degree, provided the degree has been awarded on the basis of the following:

1. At least 60 semester hours (90 quarter hours) of academic work exclusive of occupational courses;
2. An approved general education program at least 36 semester hours (54 quarter hours);
3. A grade point average of at least 2.0 on a 4.0 system on all college level academic courses attempted.

Within space and fiscal limitations, applicants who have satisfied the above minimum requirements will be considered for admission at the Junior level to an Upper Division college. Such students may be required to take additional preprofessional courses not completed at the junior college. However, such courses will not reduce the number of credits required in the Upper Division for a degree.

B. TRANSFER APPLICANTS OTHER THAN GRADUATES FROM A FLORIDA PUBLIC JUNIOR COLLEGE

This section applies to students seeking to transfer from a Florida public junior college without an Associate in Arts degree in a university parallel program and to all undergraduate transfer applicants from other colleges or universities.

1. Requirements for admission to the Lower Division

1. *Eligible for admission as a beginning Freshman:* An applicant must have been eligible for admission to the University of Florida as a beginning Freshman in order to be considered for admission to the Lower Division as a transfer student. (See section, ADMISSION AS A FRESHMAN.)

2. *Good standing:* An applicant must be in good standing and eligible to return to any institution previously attended. A student who for any reason will not be allowed to return to an institution previously attended cannot be considered for admission to the University of Florida.

3. *Satisfactory record:* An applicant must have an average of "C" or higher (as computed by the University of Florida) on all work attempted at each institution previously attended. No application can be considered until complete official transcripts of all the applicant's undergraduate work are in the possession of the Admissions Office. An official transcript must be furnished from each institution attended regardless of length of attendance or credit earned. Official supplementary transcripts are required, as soon as they are available, for any work completed after making application. Since an average of "C" or higher is required for graduation from the University of Florida, one who has failed to maintain this average at another institution is not eligible for admission. Regardless of the average earned, courses completed at other institutions must reasonably parallel the curriculum at the University of Florida.

4. *Satisfactory test scores:* An applicant who will present less than 60 semester hours (or 90 quarter hours) of acceptable college courses (including not more than 4 semester hours in Military Science and/or basic required Physical

Education) as credit for advanced standing must present satisfactory scores on an acceptable general ability test. Any of the following tests may satisfy this requirement. If taken prior to first enrollment in college: the Florida Twelfth Grade Placement Test, the Scholastic Aptitude Test (SAT) of the College Entrance Examination Board, or the American College Testing Program (ACT). Otherwise, the applicant should furnish scores on the School and College Ability Test, College Level (SCAT). The minimum acceptable score on these tests will vary with the amount and quality of academic study the applicant will have completed prior to transfer.

5. *Satisfactory conduct record:* An applicant must present a satisfactory conduct record. Regardless of other qualifications, an applicant who has experienced serious or continuing difficulty with school or other authorities because of improper conduct may find his application disapproved.

II. Requirements for admission to an Upper Division College.

With the exception of items 1 and 4, an applicant for admission to an Upper Division College must satisfy the requirements listed above for admission to the Lower Division. In addition, the following requirements must also be satisfied:

1. *Advanced Standing credit.* An applicant must present a minimum of 60 semester hours (or 90 quarter hours) of acceptable college courses, not more than four semester hours of which are in Military Science and/or basic required Physical Education as credit for advanced standing.

2. *Specific course requirements.* An applicant must present the courses listed as required for admission by the Upper Division college of his choice, or acceptable substitutes, as part of the courses offered for advanced standing credit. (See appropriate college section of this catalog). Upon recommendation by the Upper Division college, an applicant lacking some of the specific course requirements may be permitted to enroll in that college and complete them if he meets all other requirements for admission; however, such Lower Division courses will not reduce the number of credits required in the Upper Division for a degree.

ADMISSION TO THE GRADUATE SCHOOL

When to Apply: Applications can be accepted as late as the final date listed in the Graduate Catalog. Because the final decision on admission to Graduate study has to be made by the Colleges and time is required to prepare the materials for their consideration, it is strongly urged that applications be made well in advance of this final date.

Application for admission to the Graduate School must be made to the Admissions Section, Office of the Registrar, on forms supplied by that office and at the times stipulated in the University Calendar. Applications which meet minimum standards for admission are referred to the graduate selection committees of the various colleges and divisions for approval or disapproval.

No application will be considered unless the complete official transcripts of all the applicant's undergraduate and graduate work are in the possession of the Admissions Section, and no transcript will be accepted as official unless it is received directly from the Registrar of the institution in which the work was done. Official supplementary transcripts are required, as soon as they are available, for any work completed after making application.

In general, no student who is a graduate of a non-accredited institution will be considered for graduate study in any unit of the University.

All foreign students whose native tongue is not English making application for admission to the Graduate School of the University of Florida must present their scores on TOEFL (Testing of English as a Foreign Language). Each applicant is asked to write TOEFL Educational Testing Service, Princeton, New Jersey, U.S.A., requesting a Bulletin of Information and registration form. It is important to remember that final consideration can not be granted a foreign student's application for admission until his scores on this test are received by: Admission Section, Office of The Registrar, University of Florida, Gainesville, Florida, U.S.A.

Undergraduate Record: Unqualified admission to the Graduate School is dependent upon the presentation of a baccalaureate degree from an accredited college or university with an average of B for the Junior and Senior years. In some units of the Graduate School and on the more advanced levels of graduate study, an undergraduate average considerably above B may be required. In some units admission may be considered with an undergraduate average slightly below B. College graduate admission selection committees take into account not only the general grade average, but the distribution of the course work and the quality and extent of preparation for the graduate program which the student proposes to undertake.

While the general admissions requirements described above apply to both master's and doctoral candidates, it should be noted that doctoral candidates must meet certain additional requirements, which vary according to the programs established by the departments and colleges. Furthermore, it is desirable for students planning to enter certain colleges and departments to have a reading knowledge of one foreign language.

Graduate Record Examination: A satisfactory average score on the Graduate Record Examination is required for admission. Each applicant for admission must submit scores on the aptitude test of the GRE, but either at the request of the department concerned or on his own volition, the applicant is encouraged to submit in addition the score on one or more advanced subject-matter tests of the GRE. The scores on all tests taken will be weighed in regard to admission.

The GRE is given six times a year — in October, December, January, February, April and June — at a great many locations in the United States, including Gainesville, Florida. To determine exact dates and the most convenient locations, students should write to the Educational Testing Service, Princeton, New Jersey. Applications are required several weeks prior to the examination, and scores are received about a month after the examination. Hence, it is necessary to apply for the GRE in early September for admission in January, in early December for admission in March, in early January for admission in June, and in early March for admission in September. Other examinations are given for which application must be made in November and May but the ones listed above are correlated with admission deadlines.

ADMISSION TO THE COLLEGE OF DENTISTRY

When to Apply: The Application Request Card for the American Association of Dental Schools Application Service (AADSAS) may be obtained after May 15, from the Office of Admissions, College of Dentistry. The request card should be sent directly to the AADSAS, P. O. Box 1003, Iowa City, Iowa 52240. Upon receiving the application materials from the AADSAS, the completed forms and supporting documents must be returned directly the AADSAS no later than October 15 of the year prior to anticipated enrollment in dental school. Failure to meet this deadline will prevent the Dental Admissions Committee from evaluating your record.

The data compiled by the AADSAS will be carefully evaluated by the Dental Admissions Committee and promising applicants will be sent Formal Application forms which request additional information. The submission of a pre-professional committee evaluation or letters of recommendation from people in academics will not be necessary until the Formal Application forms are filed. The Formal Application forms and supporting materials should be submitted as early as possible, but no later than November 15 of each application year.

The College of Dentistry aspires to attract students of the

highest caliber into its various programs. High standards of scholastic achievement, moral character, and motivation are expected of the applicant. The student of dentistry must possess a high basic aptitude supplemented by an academic preparation of the highest order because of the vast area of science which must be mastered by the dentist. The highly personal relationship between patient and dentist places the latter in a position of trust, which demands maturity, integrity, intellectual honesty, and a sense of responsibility. A broad representation of the ethnic mixture of the State is sought in the student body through an active recruitment program. The College strictly adheres to the principle of ethnic, racial, religious and social equality among its student body and faculty.

Generally, students applying for admission should plan to complete the requirements for a bachelor's degree. However, qualified students may be accepted without fulfilling the degree requirements, provided they show evidence of sufficient preparation for the study of dentistry. Applicants with an overall "B" average as a minimum will receive strongest consideration for admission to the College of Dentistry.

Every applicant must take the Dental Admission Test, preferably in the Spring preceding the submission of his Initial Application or, at the latest, the Fall testing period. The test is given twice a year at many college and university testing centers. Following a review of all application materials and Dental Admission Test scores by the Dental Admissions Committee, interviews with members of this Committee will be arranged for competitive applicants.

(See also more detailed description in the College of Dentistry bulletin.)

ADMISSION TO THE COLLEGE OF LAW

When to Apply: Applications can be accepted as indicated in the College of Law Catalog.

Beginning Students: All applicants for admission to the College of Law must have received a baccalaureate degree from a regionally accredited college or university and achieved a satisfactory score on the *Law School Admission Test.*

The minimum acceptable score on the Law School Admission Test required for admission varies with the total grade point average achieved by the applicant on all college work attempted by the applicant prior to receipt of the first bachelor's degree. The lower the grade point average, the higher the Law School Admission Test Score must be to qualify for admission. All applicants (including present and former University of Florida students) must register with the Law School Data Assembly Service (LSDAS) in lieu of requesting transcripts from each institution of higher education attended. For more detailed information on admission to the College of Law, please see the College of Law Catalog.

Advanced Standing Students: For information on admission to the College of Law with advanced standing see the College of Law Catalog.

ADMISSION TO THE COLLEGE OF MEDICINE

When to Apply: Because the number of places in the first year class of the College of Medicine is limited, it is important that a candidate make application as early as possible during the Summer or Fall of the year preceding his intended date of entry.

Personal qualities of high order — character, responsibility and maturity — are the primary requirements for admission. The student must have demonstrated superior intellectual achievement. A bachelor's degree is strongly recommended. The quality of the academic background as well as the performance of the student in relation to the load attempted, will be weighed. A genuine interest in human welfare is important. Efficient methods of study and effective powers of reasoning are essential.

The College admits both men and women. A limited number of out-of-state students, in proportion to the number in the University as a whole, may be admitted. Students who have failed academically or are ineligible to continue in another medical school will not be admitted.

Applications from students who are presently enrolled in another medical school will be considered provided (1) the student is eligible to continue in his present medical school, (2) the school he is now attending is a member of the Association of American Medical Colleges, and (3) space is available.

Prospective applicants must take the Medical College Admissions Test, preferably, by the Spring preceding the submission of the application. A personal interview will be required for final acceptance.

Graduate students who are candidates for the Ph.D. degree in medical sciences should apply through the Graduate School.

(See also more detailed description in the College of Medicine catalog.)

ADMISSION TO THE COLLEGE OF VETERINARY MEDICINE

When to Apply: Application forms are available between September 1 and December 1 from the Office of the Dean for Student Services, College of Veterinary Medicine. The application package (residency status, application forms, fees, letters of recommendation, GRE scores, etc.) must be received by the Admissions Office by 4:30 P.M., December 15, for the applicant to be considered for admission.

(See also the section on the College of Veterinary Medicine on page 166).

ADMISSION AS A SPECIAL STUDENT

When to Apply: Each application for admission as a special student must be reviewed by the University Admissions Committee. Applications cannot be considered if they are received after the dates specified in the Catalog; and it would be desirable for a person considering application as a special student to initiate such an application at least three months in advance of the term he wishes to enter, in order to allow time for additional evidence to be presented if it should be requested by the Admissions Committee.

Special students may be admitted to the various schools and colleges of the Upper Division only by approval of the University Admissions Committee. Each case will be considered on an individual basis. Applications for admission as a special student must include: (1) records of previous educational experience (high school or college transcripts); (2) a statement as to the type of studies to be pursued; (3) a brief statement of the reason or reasons for selecting a special program other than a regular one; (4) satisfactory evidence of ability to pursue these studies — for example, a student to enroll as a special student for some technical courses and who feels qualified to do so by reason of employment or other experience; (5) satisfactory scores on such ability or achievement tests as may be prescribed in individual cases by the University Admissions Committee.

ADMISSION AS A TRANSIENT STUDENT

Subject to availability of faculty, space and facilities, a regular undergraduate student in good standing at another accredited collegiate institution may be permitted to enroll at the University of Florida as a transient student in order to

complete work to transfer back to the parent institution. No evaluation will be made of work previously completed and it is the student's responsibility to secure such approval as the parent institution may require.

Transient students are registered as NON-DEGREE students and no application for admission is required. The appropriate forms for enrolling as a NON-DEGREE student should be requested from the Office of the Registrar. Since registration is subject to the availability of space, approval to enroll as a non-degree student cannot be given prior to the first day of classes in the term for which the student wishes to enroll.

Enrollment as a NON-DEGREE student in no way implies future admission as a regular student to the University of Florida.

ADMISSION INFORMATION FOR VETERANS ADMINISTRATION, AND SOCIAL SECURITY

The University of Florida is approved for the education and training of veterans under all public laws now in effect, i.e., Chapter 31, Title 38, U.S. Code (Disabled Veterans), Chapter 34, Title 38, U.S. Code (Cold War G.I. Bill), and Chapter 35, Title 38, U.S. Code (Children of Deceased or Disabled Veterans). Students who may be eligible for educational benefits under any Veterans Administration program are urged to contact the local Veterans Administration representative as soon as accepted by the University. Students expecting to receive benefits under one of these programs must file an application for benefits. No certification can be made until the application is on file. Benefits are determined by the Veterans Administration and the University certifies according to their rules and regulations.

Inquiries relating to Social Security Benefits should be directed to the student's local Social Security Office. The Office of the Registrar will submit enrollment certificates issued by the Social Security Administration for students eligible to receive educational benefits under the Social Security Act, providing the student registers for twelve quarter hours or more.

A full time load for VA or Social Security benefits is twelve hours per quarter for undergraduates.

ADMISSION INFORMATION FOR FOREIGN STUDENTS

All foreign students whose native tongue is not English making application for admission to the University of Florida must present their scores on TOEFL (Test of English as a Foreign Language). Each applicant is asked to write TOEFL, Educational Testing Service, Princeton, New Jersey, U.S.A., requesting a Bulletin of Information and registration form. It is important to remember that final consideration cannot be granted a foreign student's application for admission until his scores on this test are received by: Admission Section, Office of the Registrar, University of Florida, Gainesville, Florida, 32611, U.S.A.

Expenses

APPLICATION FEE

Each application for admission to the University must be accompanied by an application fee of $15.00. Application fees are nonrefundable. Further instructions will be found in the Admissions section of this catalog.

GENERAL

STUDENTS SHOULD BRING SUFFICIENT FUNDS, OTHER THAN PERSONAL CHECKS TO MEET THEIR IMMEDIATE NEEDS. Personal checks will be accepted for the exact amount of fees.

CLASSIFICATION OF STUDENTS—FLORIDA OR NON-FLORIDA

(Section 6C—7.05, Florida Administrative Code)

(1) For the purpose of assessing registration and tuition fees, a student shall be classified as a "Florida" or "non-Florida" student.

(a) A "Florida student" is a person who has domicile in and who shall have resided in the state of Florida for at least twelve (12) consecutive months immediately preceding the first day of classes of the academic term in which the student enrolls. In determining residency, the university may require evidence such as voter registration, driver's license, automobile registration, location of bank account, rent receipts or any other relevant materials as evidence that the applicant has maintained continuous residency. Physical presence for the entire twelve-month period need not be required so long as the conduct of the student, taken in total, manifests an intention to make Florida his or her permanent dwelling place. If such a student is a minor, it shall mean that the parent or parents, or legal guardian of the student shall have domicile in and have resided in the state of Florida for the period stated above. "Florida student" classification shall also be construed to include students who held an Immigration and Naturalization Form 1-151, Resident Alien Registration Receipt Card, or Cuban Nationals or Vietnamese Refugees who are considered as Resident Aliens, provided such students meet the residency requirement stated above and comply with subsection (2) below. The burden of establishing facts which justify classification of a student as a resident and domiciliary entitled to "Florida student" registration rates is on the applicant for such classification.

(b) In applying this policy:

1. "Student" shall mean a person admitted to the, or a person allowed to register at the institution on a space available basis.

2. "Minor" shall mean a person who has not attained the age of 18 years, and whose disabilities of minority have not been removed by reason of marriage or by a court of competent jurisdiction.

3. "Domicile" for fee paying purposes shall denote a person's true, fixed, and permanent home and place of habitation. It is the place where the applicant lives and remains and to which he expects to return when he leaves, without intent to establish domicile elsewhere.

4. "Parent" shall mean a minor's father or mother, or if one parent has custody of a minor applicant, it is the parent having court assigned financial responsibility for the education of the student; or if there is a court appointed guardian or legal custodian of the minor applicant, it shall mean the guardian or legal custodian.

5. The term "dependent student," as used in this rule is the same as a dependent as defined in sections 151(e)(1)(2)(3) and (4) of the Internal Revenue Code of 1954. A copy of these provisions in the Internal Revenue Code of 1954 is incorporated in this rule by reference.

6. A "non-Florida" student is a person not meeting the requirements of subsection (a) above.

(2) In all applications for admission or registration at the institution on a space available basis, a Florida applicant, or if a minor, the parent or legal guardian of the minor applicant, shall make and file with such application a written statement, under oath, that the applicant is a bonafide citizen, resident, and domiciliary of the state of Florida, entitled as such to classification as a "Florida student" under the terms and conditions prescribed for citizens, residents, and domiciliaries of the state of Florida. All claims to "Florida student" classification must be supported by evidence as stated in 6C-7.05(1) if requested by the registering authority.

(3) A "non-Florida student" or, if a minor, his parent or guardian, after having been a resident and domiciliary of Florida for twelve (12) consecutive months, may apply for and be granted reclassification prior to the first day of classes of any subsequent term; provided, however, that those students who are non-resident aliens or who are in the United States on a non-immigration visa will not be entitled to reclassification. An application for reclassification as a "Florida student" shall comply with provisions of subsection (2) above. An applicant who has been classified as a "non-Florida" student at time of original enrollment shall furnish evidence as stated in 6C-7.05(1) to the satisfaction of the registering authority that the applicant has maintained continuous residency in the state for the twelve months required to establish residence for tuition purposes. In the absence of such evidence, the applicant shall not be reclassified as a "Florida student." In addition, the application for reclassification must be accompanied by a certified copy of a declaration of intent to establish legal domicile in the state, which intent must have been filed with the Clerk of the Circuit Court, as provided by Section 222.17, Florida Statutes. If the request for reclassification and the necessary documentation is not received by the registrar prior to the last day of registration for the term in which the student intends to be reclassified, the student will not be reclassified for that term.

(4) Unless evidence to the contrary appears, it shall be presumed by the registering authority of the institution at which a student is registering that:

(a) The spouse of any person who is classified or is eligible for classification as a "Florida student" is likewise entitled to classification as a "Florida student." This provision will not apply in the case of students who are non-resident aliens or who are in the United States on a non-immigration visa.

(b) If an applicant's eligibility for classification as a "Florida student" is based on the residency of the spouse, the spouse shall make and file with the application a written statement under oath, that said person is the spouse of the applicant and a bonafide citizen, resident and domiciliary of the state of Florida, entitled as such to classification as a "Florida student."

(c) No person over the age of 18 years shall be deemed to have gained residence while attending any educational institution in this state as a full-time student, as such status is defined by the Board of Regents, in the absence of a clear demonstration that he has established domicile and residency in the state, as provided under subsection (3) above.

(d) Any "Florida student" who remains in the state, after his parent previously domiciled in Florida or stationed in Florida on military orders removes from this state, shall be entitled to remain classified as a "Florida student" so long as his or her attendance at a school or schools in Florida shall be deemed "continuous." However, such student claiming continuous attendance

must have been enrolled at a school, college or university for a normal academic year in each calendar year, or the appropriate portion or portions thereof, from the beginning of the period for which continuous attendance is claimed. Such a student need not attend summer sessions or other such intersession beyond the normal academic year in order to render his attendance "continuous."

(5) Appeal from a determination denying Florida student status to any applicant therefor may be initiated after appropriate administrative remedies are exhausted by the filing of a petition for review pursuant to Section 120.68 F.S. in the District Court of Appeal in the appellate district in which the institution maintains its headquarters or where a party resides.

(6) Any student granted status as a "Florida student," which status is based on a sworn statement which is false shall, upon determination of such falsity, be subject to such disciplinary sanctions as may be imposed by the president of the university.

(7) Special Categories—The following categories shall be treated as Florida residents for tuition purposes if adequate documentation is provided:

(a) A member of the Armed Services of the United States who is stationed in Florida on active duty pursuant to military orders, the spouse and dependent students.

(b) A veteran of the Armed Forces of the United States of America with twenty (20) or more years of active military service, including the spouse and dependent students of such veteran's immediate family, provided that the veteran is in Florida at time of retirement or moves to Florida within one year following retirement and files a declaration of Florida domicile.

(c) Full-time elementary, secondary, and community college faculty members under current teaching contracts in the state of Florida and their spouses and dependent students.

(d) Full-time faculty, administrative and professional and career service employees of the University System and their spouses and dependent students.

(e) A student certified by his respective state for participation in the Academic Common Market Program of the Southern Regional Education Board who is enrolled in a program approved by the Florida Board of Regents.

(f) Florida domiciliaries living in the Panama Canal Zone who have not established domicile elsewhere, including the spouse and dependent students.

(g) Florida residents who had their residency in Florida interrupted by service in the U. S. armed forces, the Peace Corps or other similar volunteer organizations fostered by the United States government shall be deemed to have had residency in Florida during times of service in the aforementioned organizations.

(8) Reciprocal Agreements. The Board of Regents may enter into agreements with appropriate agencies and institutions of higher education in other states and foreign countries providing for the reciprocal exchange of students enrolled and prospective in higher educational institutions to facilitate utilization of public higher educational institutions in this State and other states or countries. Such agreements may include provisions for waiver or reduction of non-resident tuition for designated categories of students and may include contractual payments to such other state or country, subject to the availability of appropriations. Such agreements shall have as their purpose the mutual improvement of educational advantages for residents of this State and such other states or countries with whom agreements may be made.

To establish Florida residence a student applying for admission should complete the residence affidavit on the application form.

To change status from non-Florida a student must present to the Registrar's Office a copy of the Declaration of Intent and the completed Residence Affidavit Form. To claim the military exception the student must furnish the Registrar's Office a copy of the military orders showing assignment to Florida. A public school official must submit a written statement from his or her superior as to his or her public school status. A University employee must submit a statement from his or her employer as to his or her employment status.

DEFINITION OF REGISTRATION.

Registration consists of three major components:

1. The registrant must supply information requested by the university for the purpose of establishing and administering academic, financial and community relationships between the university and the student;

2. The registrant must supply course and schedule information needed to establish and administer his matriculation in particular departments, courses and sections;

3. The registrant must pay all assessed registration and tuition fees as well as satisfy all current or delinquent amounts payable to the university.

REGISTRATION AND INSTRUCTIONAL FEES

The University Calendar appearing at the front of this Catalog sets forth the beginning and ending dates of each quarter.

THE FOLLOWING FEES AND CHARGES ARE PROPOSED AT THIS TIME. HOWEVER, SINCE THE CATALOG MUST BE PUBLISHED IN ADVANCE OF ITS EFFECTIVE DATE IT IS NOT ALWAYS POSSIBLE TO ANTICIPATE CHANGES AND THE FEE SCHEDULE MAY BE REVISED. EVERY EFFORT WILL BE MADE TO PUBLICIZE CHANGES FOR ANY QUARTER IN ADVANCE OF THE REGISTRATION DATE FOR THAT QUARTER.

Fees are payable on the dates listed in the University of Florida Calendar appearing at the front of the Catalog or the dates shown on statements sent those participating in Advance Registration. Payment of fees is an integral part of the registration process. Registration (including payment of fees) must be completed on or before the proper due date. Student Accounts, The Hub, must be provided a properly executed authorization for payment in cases where fees are to be paid by a previously approved loan, scholarship, etc., prior to the deadline published in the Calendar.

FEE LIABILITY

LIABILITY IS INCURRED FOR ALL CREDIT HOURS REMAINING ON A STUDENT'S SCHEDULE AT THE CLOSE OF THE DROP/ADD PERIOD EACH QUARTER.

ASSESSMENT OF FEES

Students must assess and pay their own fees. UNIVERSITY PERSONNEL WILL NOT BE HELD ACCOUNTABLE FOR PROPER ASSESSMENT OR MATHEMATICAL ACCURACY OF CALCULATIONS. Students should assess their fees in accordance with the table of charges below:

COURSE FEES Charge per Credit Hour

			Summer Course Fees	
Course No.	Florida Students	Non-Florida Students	Florida Students	Non-Florida Students
0-2999	$15.00	38.00	9.00	32.00
3000-4999	16.50	51.50	10.50	45.50
5000-9999 (excluding 6971 & 7980)	22.00	62.00	22.00	62.00
6971 & 7980 (Thesis & Dissertation)	24.00	64.00	24.00	64.00

STUDENTS ENROLLED IN THE M.D., D.M.D., OR D.V.M. PROGRAMS

A Florida student will pay $450.00 for each quarter of enrollment. A non-Florida student will pay $1,018.00 for each

quarter of enrollment. (These amounts include the $11.00 Student Health Fee.)

NOTE: A student registered for twelve (12) hours per quarter is considered as full-time for Student Financial Aid.

STATE EMPLOYEES
FREE COURSE ENROLLMENT

Detailed information on the waiver of registration fees for permanent full-time employees of the state may be obtained from the Office of the Registrar.

Those who have been employed on a permanent full-time basis for at least six months may be permitted to enroll for six credit hours per term on a space available basis only.

STUDENT HEALTH FEE

STUDENTS REGISTERED FOR NINE OR MORE CREDIT HOURS PER QUARTER ARE REQUIRED TO PAY AN $11.00 STUDENT HEALTH FEE. The student health fee is optional for students registered for eight hours or less.

WAIVER OF HEALTH AND STUDENT ACTIVITY AND SERVICE FEES

The University Controller may waive the Student Health Fee and the Service and Activity Fee for students participating in such off-campus credit programs as the Mexican Law Summer Program and the Utrecht Program.

These fees may also be waived at the discretion of the Controller for those whose studies required them to be off-campus for an entire quarter or for such a duration as to preclude their use of university facilities funded from these fees.

A request for approval of such a waiver should be originated by the dean or department chairman in charge of the program upon request from the student enrolled in the program.

Approved waivers must be delivered to Student Accounts, the HUB, prior to the deadline for fee payments shown in the front of this catalog for the quarters requested. Waivers of this type may not be processed after this date nor shall refunds be issued.

LATE REGISTRATION

A fee of $25.00 will be assessed against students who fail to initiate registration during the registration period or who fail to pay fees within the time period specified.

REINSTATEMENT FEE — CANCELLATION AND REINSTATEMENT.

1. The university will cancel the registration of a student whose fee account for enrolled instructional courses is in arrears beyond the close of business on the twenty-eighth day after the opening day of classes. A student whose registration is cancelled is not entitled to a refund beyond the circumstances covered under the refund policy.

2. Reinstatement will require approval of the university, payment of all delinquent liabilities and payment of a reinstatement fee of $25.00 in addition to the late registration fee.

A student whose registration has been cancelled or flagged must request a clearance letter at Student Accounts, the HUB. To expedite clearance, the student should deliver the letter to Registrar Records, Room 34, Tigert Hall.

DEADLINES

Students are reminded that deadlines are strictly enforced. The University does not have the authority to waive the late and/or reinstatement fees unless it has been determined that the University is primarily responsible for delinquency in a student account or that extraordinary circumstances warrant such waiver.

LOCAL ADDRESS

IT IS THE RESPONSIBILITY OF THE STUDENT TO BE SURE THAT A CORRECT CURRENT LOCAL ADDRESS IS ON FILE WITH THE REGISTRAR AT ALL TIMES. Change of Address forms may be obtained from the Registrar's Office.

PICTURE I.D.

A CURRENT VALID PHOTO I.D. MUST BE PRESENTED IN ORDER TO TRANSACT BUSINESS AT THE OFFICE OF STUDENT ACCOUNTS.

SPECIAL FEES AND CHARGES

AUDIT FEE. Fees for audited courses are the same as those listed above for Florida students. The audit fee is the same for Florida and non-Florida students.

COLLEGE LEVEL EXAMINATION PROGRAMS. Examinations are administered on campus on the third Saturday of every month. Applications should be completed in the Office of Instructional Resources, 1012 GPA, fifteen working days before the day a test is to be given. The fee for each examination is $26.00. Checks should be payable to College Level Examination Program.

GRADUATE RECORD EXAMINATION. The Aptitude Test of the Graduate Record Examination is required for admission to the Graduate School. A fee of $13.00 covers the cost of this examination. These fees are payable to the Educational Testing Service, Princeton, New Jersey 08540.

GRADUATE SCHOOL FOREIGN LANGUAGE TEST. All students wishing to be certified as proficient in a reading knowledge of French, German, or Spanish, must take the Educational Testing Service (ETS) Graduate School Foreign Language Tests. A fee of $13.00 covers the cost of each examination. This fee is payable to Student Accounts, The Hub. Administrative arrangements to register for this examination will be made through the Graduate School Office.

LIBRARY BINDING CHARGE. Candidates for a graduate degree with a thesis or dissertation pay a $13.00 charge for the permanent binding of the two copies deposited in the University of Florida Library. This charge is payable at Student Accounts, The Hub, by the date specified in the Graduate Catalog. A copy of the receipt must be presented at the Graduate School office.

REFUND OF FEES

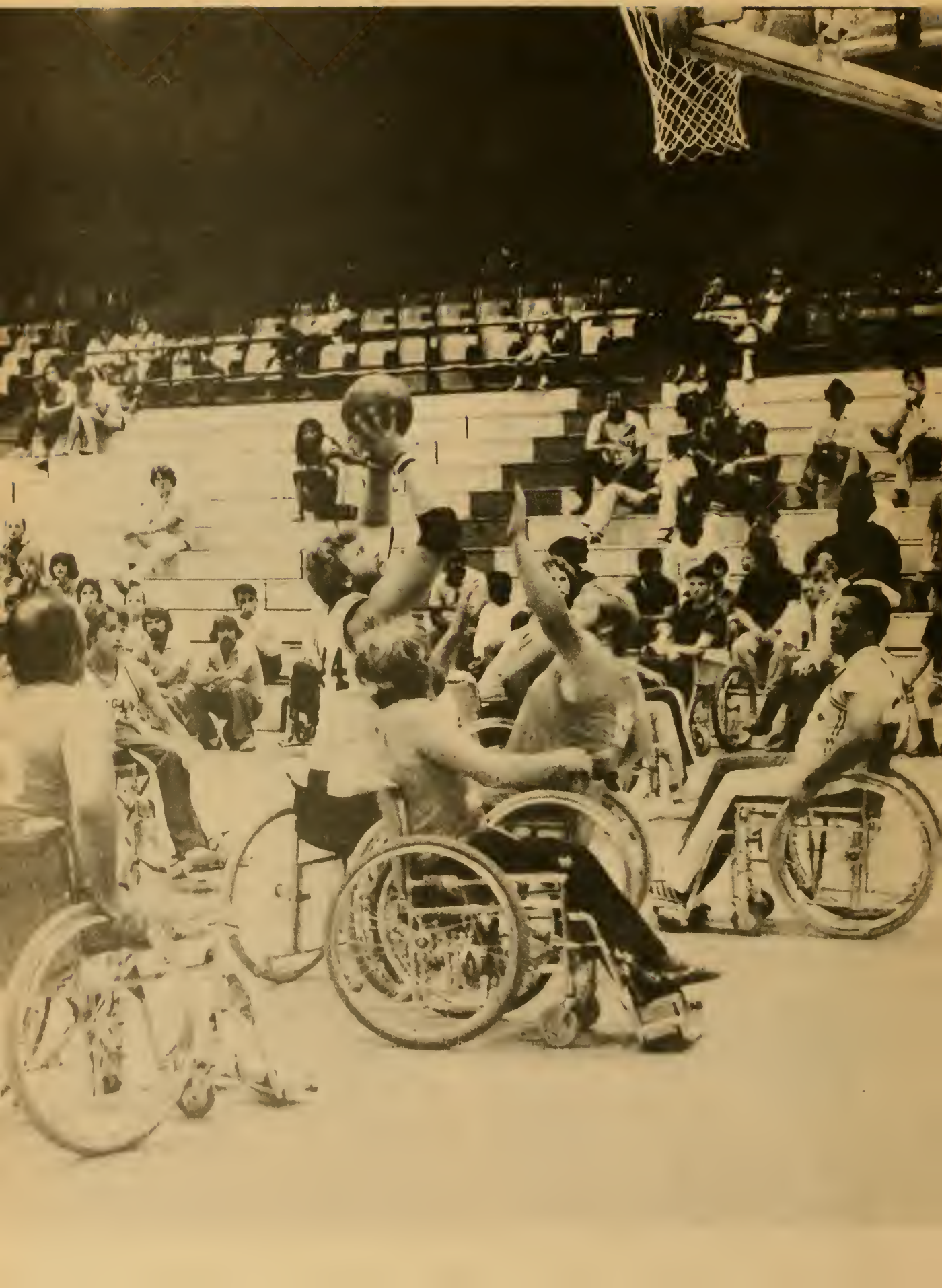
1. Fees will be refunded in full for:
   a. Credit hours dropped during the drop/add period.
   b. Courses cancelled by the University.
2. With the exception of amounts required for collection under bond and trust obligations, fees may be refunded in instances of:
   a. Involuntary call to active duty.
   b. Death of a student.
   c. Illness of the student of such duration or severity, as confirmed by a physician, that completion of the quarter is precluded, or
   d. Exceptional circumstances, upon approval of the University President.

Refunds may be requested at Student Accounts, Room 114, the HUB. Proper documentation must be presented when a refund is requested. A waiting period for processing may be required. REFUNDS ARE NOT APPLIED AUTOMATICALLY AGAINST CURRENT OR SUBSEQUENT FEE LIABILITIES.

PAST DUE STUDENT ACCOUNTS

All students' accounts are due and payable at Student Accounts, The Hub, at the time such charges are incurred. ,

University regulations prohibit registration, graduation, granting of credit or release of transcript for any student whose account with the University is delinquent.



Student Affairs

The following information describes the responsibilities of the various offices charged with assistance to students at the University of Florida. Additional information may be found in THE FLORIDA STUDENT GUIDE and THE CAMPUS DIRECTORY.

VICE PRESIDENT FOR STUDENT AFFAIRS

The Office of the Vice President for Student Affairs is a focal point for student concerns and strives to make the educational experience for students at the University of Florida as meaningful as possible. The Vice President for Student Affairs works to maintain and improve good communications and working relationships among and between students, faculty, and administration.

The goals of the Division of Student Affairs include: developing effective and efficient services and programs for students through the various departments within Student Affairs; integrating student affairs and academic affairs; directly involving students in the affairs of the institution; encouraging a sense of community among students, faculty, and administration; and increasing accessibility to and attractiveness of the University of Florida to a wide variety of persons.

The Office of the Vice President for Student Affairs is located in 123 Tigert Hall and is open to assist individual students and groups in matters concerning them. All students are encouraged to share in the responsibility for enabling the various divisions of the University of Florida community to meet the needs of students.

The Office of the Vice President for Student Affairs has administrative responsibility for the following offices and programs at the University of Florida: Office for Student Services, Student Housing Office, Office for Student Financial Affairs, Career Resource Center, J. Wayne Reitz Union, and University Counseling Center.

OFFICE FOR STUDENT SERVICES

The basic commitment of the Office of the Dean for Student Services at the University of Florida is to the total development of each individual student so that he or she might achieve full potential as a human being. Staff members strive to help students become self-directive in all their activities. The staff feels it can most effectively be helpful to students by reaching them "where they live," in real life situations.

The purposes of the Office for Student Services are to contribute to the attainment of the educational goals of the University of Florida by: helping to structure appropriate experiences for the intellectual, psychological, social and physical development of each student; providing opportunities to meet students' need for personal attention; assisting students in the development of their career objectives; making students aware of and encouraging the use of the resources of the University; interpreting the goals, objectives and actions of the institution to students; encouraging the development of a sense of community among students, faculty and staff; helping students to develop purpose in their lives — a system of values of which they are aware and a sense of personal integrity; and assisting in the development of university policy and procedures.

Functions emerge from purposes, and the Office for Student Services at the University of Florida carries on these functions: individual advising, student advising, new student programs, coordination of programs for the physically handicapped, fraternity and sorority coordination, minority student affairs, veteran student affairs, committee responsibility for student petitions and admissions, married student programs, women's programs, transfer student center, leadership skill development, student judicial affairs, off-campus student programs and services, and student withdrawals.

The International Student Center and the Institute of Black Culture are also operational units of the Office for Student Services.

INTERNATIONAL STUDENT SERVICES

The International Student Services Center assists international students in adjusting to the changing life style and study habits in a new and sometimes perplexing environment. Special services are provided related to foreign educational and cultural backgrounds; language, legal, employment, academic, and personal matters; U.S. immigration and other government agency responsibilities as aliens; and currency exchange. The focus is on helping international students achieve their educational goals, while providing an insight into the culture of the United States through a program of social activities, orientation seminars, and community visits.

INSTITUTE OF BLACK CULTURE

The Institute of Black Culture is an educational tool for students at the University of Florida. It is a facility for enlightenment and black awareness where Afro-Americans can focus on their history, literature, art, culture, and life style. It is also a place where whites can develop a better understanding of blacks and an appreciation of black contributions to American society. The center sponsors programs, exhibits, and related activities.

STUDENT HOUSING

The University of Florida offers its resident students a unique and exciting residence hall program. It is our belief that living on campus is a profitable educational experience that the students will long remember. Our desire is to provide accommodations and programs to meet the needs of our students while promoting the overall educational goals and objectives of the University.

The University of Florida has a large resident population composed of both in-state and out-of-state students, as well as students from 90 different foreign countries. Since our students come from differing environmental backgrounds and social experiences, they bring with them varying needs and expectations. Because of this diversity in our student body, we feel it would be a disservice to our students to take a unilateral approach in developing our residence hall program. Therefore, we have developed a program based upon alternatives and choices. Out students may select from various housing accommodations and environments the style that best fits their needs.

GENERAL INFORMATION

All freshmen who apply for admission to the University will receive a Housing Application Card upon approval of admission.

The University of Florida has no residency requirement. Entering students are free to choose either on-campus or off-campus accommodations. Students who voluntarily contract for on-campus housing normally must do so for the entire academic year (September to June) if enrolled. However, residents must be full-time students to be eligible to reside in the residence halls. Full-time enrollment for residency is defined as being enrolled in 9 credit hours if an undergraduate and 8 credit hours if a graduate student.

All students other than beginning freshmen must *initiate* their own arrangements for housing either by (1) applying to the Director of Housing for assignment to University Housing facilities, or (2) obtaining accommodations in private housing (see Off Campus Housing Section).

All correspondence concerning application for University housing should be addressed to the Director of Housing, University of Florida, Gainesville, Florida, 32611. An application for residence hall space for students other than

freshmen may be filled at any time after an application for admission to the University has been approved. Prospective students are urged to apply as early as possible because of the housing demand.

For all students other than beginning freshmen, application requests are considered first-come, first-served, on a space-available basis.

Roommate requests shall be considered if the individuals wishing to room together submit their applications on the same date, clearly indicate their desire to room together on their respective applications, elect the same visitation choice and assignment option, and are within similar academic classification.

ROOM STYLES

There are several room styles to fit the individual student's preference. The most prevalent is the double room, accommodating two students, with central floor bath facilities. Doubles are found in every area except Beaty Towers and range from air-conditioned units with phones in Hume Hall, to rooms with bay windows in Murphree.

All rooms have individual closets, storage space, dresser, bed and mattress, study desk and chairs.

Room rates vary, depending on such features as air conditioning, phone service, and floor space. See rental rate chart for specific charges.

Beaty Towers provide apartment living on campus. These two-bedroom apartments are fully contained with their own bathroom, study, kitchen, and two separate bedrooms for four students. Each apartment is fully carpeted, air conditioned, and has a telephone.

The Murphree Residential Area offers suites for two students. These non-air-conditioned facilities offer the student more individual living space. Each suite is made up of two rooms — one designed as a study and living area, the other as a bedroom with a lavatory.

THE RESIDENCE HALL STAFF AND STUDENT GOVERNMENT

A full complement of professional and para-professional staff members is available to assist students in becoming a part of campus life. The staff in residence act as referral agents in acquainting students with the many resources of the University. Our staff are also involved in a range of activities, from initiating social and intramural athletic programs to supplementing the various academic and developmental programs. In addition, staff members supervise and enforce policies designed to create an atmosphere conducive to learning and growth.

Each floor or section is supervised by an undergraduate Resident Assistant, the RA. Working in close conjunction with the RA is a graduate student, the Hall Director, who coordinates the area activities and insures, through the RAs, an environment for learning. The Assistant Director of Housing for Residence Life is a professional staff member and is responsible for the overall administrative and educational functions within the residence area. The entire housing staff is committed to servicing our students in the most effective and responsible way possible. The student is why the staff exists, and his/her development is our primary goal.

INTER RESIDENCE HALL ASSOCIATION

All students in the residence halls are encouraged to participate in organizational activities which can play a significant part in their educational, cultural, social, and recreational life. The Inter Residence Hall Association was established to help stimulate this participation. IRHA represents the collective interests of all resident students. The organization also serves as a channel of communication between residence area government councils, the University community, and other outside interests. This self-government program at both the hall and area levels offers residents the opportunity to help establish guidelines for group living and to assist in the planning of social and educational activities for their fellow students.

GENERAL SERVICES

TELEPHONES. A telephone is conveniently located in each student room except in Buckman Co-op. Each room telephone provides 24-hour service on campus and within the Gainesville area; cost of local service is included in the rental rate. Charges for long-distance calls are billed monthly to each room by Southern Bell, and each student is responsible for paying directly to the telephone company.

FOOD SERVICE. The Division of Housing is not directly affiliated with the University Food Service, and meals are not included in the housing rent payment. However, Servomation Mathias, a private food service operation, does maintain cafeterias and snackbars on campus and offers meal plans. Hume Hall and Broward Hall have cafeterias. Snackbars are located in Tolbert Hall and Graham Hall. Cafeterias are also located in Johnson Hall, the Reitz Student Union, and the Medical Center. It is the policy of the University to provide well-prepared food at the lowest possible price.

REFRIGERATOR RENTAL. Most residence areas have a refrigerator in every room, and cost is included in the room rent. If students bring their own refrigerators, they must make arrangements for installation and removal. No refund will be granted if a student brings his refrigerator to a hall already furnishing such units.

CUSTODIAL SERVICE. Each residence hall (except co-ops) has a staff of experienced custodians assigned to do general cleaning of public areas, bathrooms, lounges, and hallways. Other specific tasks are done in order to maintain good housekeeping throughout the halls. Student room cleaning is the responsibility of each resident.

INTERNAL SECURITY. Residence hall security is monitored by the residence hall staff; external building security generally is the responsibility of the University Police Department. Trained Housing Division Security Assistants patrol the areas immediately adjacent to the residence halls.

VENDING. Various vending machines are conveniently located in all residence halls for the comfort and pleasure of students desiring such services.

LAUNDRY FACILITIES. Coin-operated washers and dryers are provided in each residence area. Most students provide their own irons; however, some area governments provide irons on a check-out basis. Ironing boards are located on all floors.

SPECIAL HOUSING AREAS: CO-OP, HONORS, SCHOLARSHIP, GRAD, FAMILY

Recognizing the diversity of students' needs, the Division of Housing offers several different living environments.

New students are assigned primarily to double or triple rooms when first applying to the University, but once on campus they may qualify for specialized areas. Students with financial needs may interview for membership in one of the three cooperative living areas: Reid, Buckman, or North Hall. These co-ops offer reduced rental rates in exchange for student participation in the daily operational tasks, an equivalent of approximately twenty hours per quarter.

Yulee Scholarship Hall provides single rooms for those students who qualify with a required minimum grade point average of 3.0 and are at least 21 years of age or have junior or above classification.

Qualifying freshmen may be invited to live in the "Honors Hall" (East Hall) with other selected freshmen and participate in an accelerated academic program. For more information as to your eligibility to qualify for the "honors" program and the Honors Hall, contact the Director of Honors Program (telephone (904) 392-1521).

Upper Division and graduate students residing on campus generally live in apartments in Beaty Towers. Four students share an apartment with two bedrooms, complete kitchen and private bath. Apartments in Schucht Village are also available to students, with priority being given to students in medical or dental school.

FAMILY STUDENT HOUSING

Family Housing apartments are reserved for married students and their children (if any), and student parents with-

out spouses who have dependent minor children under their legal care or who qualify under the provisions of Federal Regulations Title IX.

A student must have applied for admission to the University of Florida prior to applying for on-campus family student housing. He/she must be registered as a full-time student as defined by his/her college or school during the quarter in which housing is desired in order to qualify for a family housing apartment assignment. In order to maintain occupancy, the student must make normal progress toward a degree as determined by his/her college or school. As applicable, proof of marriage will be required, or the necessary documents to support that a minor child(ren) is in the legal care of a student parent without a spouse.

Family housing facilities consist of one- and two-bedroom apartments, a few townhouses and efficiencies. These units come furnished, unfurnished, air conditioned and non-air conditioned. Most all Family Housing villages are located on campus or within a mile and a half of the University's main campus. Rental rates range from $85 to $180 a month.

Family income limits are set by the Department of Housing and Urban Development *For Maguire Village only.* There are no income limits for Corry, Diamond, Tanglewood, or University Village South.

For additional information, write or call Division of Housing, Family Housing Office, University of Florida, Gainesville, 32611, telephone (904) 392-2176.

OFF CAMPUS HOUSING

The Housing Office functions as a listing and referral agency for privately owned rental housing of all types listed with the University for referral to students, faculty, and staff.

This office maintains extensive listings of apartments, houses, rooming units, trailers, and trailer park lots offered for rent to students, faculty, and staff. Each spring, the office compiles a comprehensive list of major apartment and rooming unit developments. This list is available to anyone who requests it in person or by mail at the Off Campus Housing Office.

It is recommended that a personal inspection of the rental facility and a conference with the owner (or agent) be made prior to making a deposit or signing a lease agreement. Persons seeking off-campus housing should plan to arrive in Gainesville well in advance of the quarter in which housing is needed. For example, Fall Quarter arrangements are possible as early as April, Winter Quarter after mid-November, etc. For best results, visit during the week — not weekends — after preliminary information on available rentals has been obtained. Apartment rates usually range from $145 for a one-bedroom to $450 for a three bedroom unit.

Landlord/tenant problems are handled by Student Government's attorney, Room 302, Reitz Union, telephone (904) 392-1623.

Inquiries about off-campus housing should be directed to the Off Campus Housing Office, University of Florida, Gainesville, 32611, telephone (904) 392-2181.

Off-Campus Cooperative Living opportunities are also available. Qualifications for membership are scholastic ability, and reference of good character. Inquiries should be addressed to: Collegiate Living Organization (Co-ed), 117 NW 15th St., and Georgia Seagle Hall (men), 1002 W. University Avenue.

STUDENT FINANCIAL AFFAIRS

The Office for Student Financial Affairs provides financial assistance and counseling for students who need help in paying college expenses. Financial aid is awarded according to each individual's need in relation to college costs. Awards may include loan, grants, scholarships, or part-time employment and may be offered to students singly or in various combinations. Evidence of financial need is determined by the College Scholarship Service on the basis of the financial information provided in the Financial Aid Form. The application period for financial aid is January 1 through March 1 for the academic year beginning the following September. Applications submitted after March 1 are accepted on a funds available basis only. A new application for financial aid must be submitted each year. Financial Aid Applications may be obtained by writing to the Office of STUDENT FINANCIAL AFFAIRS, Room 111, Anderson Hall.

Applicants for financial assistance must complete a College Scholarship Service Financial Aid form (FAF) and University of Florida Financial Aid Supplement. Undergraduate students must apply for the Basic Educational Opportunity Grant by checking Box 1, item 43 on the FAF. An official award cannot be made until the student has been accepted for admission to the University of Florida. However, he/she should not wait for notice of acceptance but should apply as soon as possible after January 1. Aid for graduate students through the Office for Student Financial Affairs is limited to part-time employment and certain loan programs. Applications for other aid; e.g., fellowships, assistantships and loans, should be made to the head of the department of the student's major or the Dean of the Graduate School.

Scholarships

Approximately 400 scholarships are awarded through the Office for Student Financial Affairs to the most outstanding undergraduate students showing financial need as determined by the College Scholarship Service. Funds for the scholarship programs are, of course, extremely limited and in most cases amount to only $150 per quarter. Additional awards are made by donors who select the recipient directly. Students are urged to consult the resources of their home community, civic clubs, service organizations and county educators.

Part-time Employment

Part-time employment may be awarded to a student as part of the total financial aid package. The University of Florida offers part-time employment to approximately 2,500 students each year. In addition, many students work off-campus in the Gainesville community. Normally a student works only 15 hours or less each week and earns between $900 and $1800 per year, depending upon personal skills and experience.

Loans

Loans are available in two forms. **Long-term loans** are low interest loans with payment deferred until the student graduates, withdraws, or changes his or her status as a full-time student. A full-time student carries a minimum of 12 hours for financial aid purposes. Short-term loans are emergency loans available to meet **temporary** needs. Recipients must be full-time students in good standing with the University of Florida. **The maximum amount that may be borrowed in any quarter is $200, or the amount of in-state Fees. Graduate student eligibility is $250 or the amount of in-state Fees. Short-term loan repayment must be made by the first day of the last month of the quarter in which the loan is obtained. Graduate student eligiblity is $250 quarterly.**

Grants

Financial assistance in the form of grants from Federal and State sources is available to undergraduate students. Such grants require exceptional financial need and do not have to be repaid by the student.

CAREER RESOURCE CENTER

The Career Resource Center provides career development, job placement, and cooperative education programs for all University of Florida students and alumni.

The objective of the Center is to assist students in developing 1) viable career plans compatible with academic intersts, and 2) strategies that insure marketability and employment opportunity upon graduation. Thus, the entire program focuses upon the student—during early undergraduate years, approaching graduation, and after gradu-

ation as an alumnus. The program is designed to permit students to enter at any point in their college careers. Program resources include:

Individual advisement for students seeking personal career development and job search assistance.

A career mini-school offering many different career investigations and job search preparation short courses weekly (50-minutes each). Courses include career planning, career information for minorities, job market projections for various career fields, job search planning, resume and letter writing, interview techniques, part-time and summer jobs, tips on using the Center, and other specialized information for business, industry, and education job seekers.

A cooperative education program by which students may —through supervised practical work experiences—add relevance to their classroom education, gain professional experience in chosen fields, provide a source of funds to help defray college expenses, and in many cases, become more competitive when entering the job market upon graduation.

An extensive placement service for students and alumni comprising the largest on-campus job interviewing program in the state representing all career fields, and a computer program matching students and alumni with potential employers. The program provides employers with computer printed "mini-resumes" of qualified persons. Students and alumni receive computer listings of compatible employers. The Center also publishes current employer job listings representing hundreds of positions—full-time, part-time and summer—for students, new graduates, and experienced alumni.

A career resources library containing information on several thousand employes and related occupations; employer contact lists; directories for business, industry, education and government; lists of American firms operating overseas; reference and informational material on graduate and special studies programs including fellowships and assistantships; and many other materials and resource data needed by students planning a career, entering the job market, or contemplating graduate school. A special feature of the library facilities is the "Trends Desk" containing research data on job trends, outlook and economic forecasts, labor market statistics, manpower bulletins for various career fields, special directories and publications giving reports and ratings on most employers.

An audio visual department with study carrels and a library of over 150 slide/tape, video, and audio programs covering career choices, employer information, selection of academic programs, and job search and interview techniques.

A quallfication record repository and referral service is available to students and alumni. Qualification Records on over 40,000 students and alumni are presently on file. Copies of credentials sent upon request of the students and alumni to potential employers. In addition, the Center refers qualified persons on file and seeking employment to interested employers requesting candidates to fill job vacancies.

An "outreach program" in which professional staff members are available to hold seminars for student organizations, for lecture presentations to classes on all phases of career planning and job search preparation, and to develop "Career Day" programs in conjunction with colleges.

For additional information, students, alumni, and faculty are invited to visit the Center located on the ground floor of the Reitz Union. Staff members will be happy to discuss ideas, concerns, and needs for individuals or groups.

J. WAYNE REITZ UNION

The J. Wayne Reitz Union is the official center of campus activities. The provision of facilities, services, and a varied program of activities available to all persons of the University "community" serves as the basic purpose of the Union. Policy for the Reitz Union is established by a Board of Managers, consisting of eight students and six faculty members.

During May, 1967, the J. Wayne Reitz Union building was opened. Among the facilities and services offered are music listening rooms, art gallery areas, Arts and Crafts Center, photographic darkrooms, browsing library, a games area for bowling, billiards and table tennis, public telephones, information desk, passenger and ride wanted bulletin boards, display cases, barber shop, Union Store. A large ballroom, an auditorium, and conference and meeting rooms are available for all University organizations. Guest rooms are available for official guests of the University, guests of students, faculty, staff, and alumni.

The Reitz Union offers a wide range of food service facilities and dining opportunities. A cafeteria, snack bar, a restaurant dining area, the Orange and Brew, the Sugar Cone, and complete catering services for small intimate groups or for a banquet for 700 persons are included in the building.

Of particular significance to the educational program of the University is the Student Activities Center located on the third floor. A distinctive physical arrangement of offices and work space for Student Government, the Student Honor Court, and many other student groups enhances the effectiveness of the total student activities program of the University.

The Reitz Union plans and promotes many social, cultural, and recreational activities for the campus community. Among the regular activities are art exhibits, International Dinners, leisure classes, current and cultural films, a performing arts series, speaker's programs, out-door concerts, poetry readings, book reviews, arts and crafts sales, and campus tournaments in billiards, bowling, bridge, football and chess. Special activities such as receptions, dances, intracampus and inter-collegiate bridge, billiard and bowling tournaments, music appreciation listening hours, fashion shows, international activities, and special holiday parties are all a part of the Reitz Union program.

A distinctive area of the Reitz Union is the H. P. Constans Theatre, a 464-seat facility for the dramatic arts which provides excellence in design, equipment for staging and lighting, and acoustics.

UNIVERSITY COUNSELING CENTER

The University Counseling Center offers free psychological and vocational counseling to all students of the University and their spouses. The Center is staffed by psychologists whose primary interests are to facilitate the growth and development of individuals in the University setting. Psychological services are available to students experiencing academic, personal, social, or marital difficulties. Vocational services include testing, career information, and counseling. The Center offers consultative services to University faculty and staff who are engaged in advising or counseling students.

UNIVERSITY FOOD SERVICE

Food service provides food service in nine locations on campus convenient to residence halls and classrooms.

Students are offered high quality food at reasonable prices in campus cafeterias and snack bars, as well as the Orange and Brew, Rathskeller, and the Arredondo Room.

It is the policy of the University to provide well-prepared food at the lowest possible cost. Students may effect a savings by participating in one of the three voluntary meal plans. The seven-day plan, three meals a day; the seven day plan, two meals a day, or the five day plan (Monday through Friday) any two meals a day. For further information contact the Servomation Office, 110 Johnson Hall.

STUDENT HEALTH SERVICE

Student Health Service provides a spectrum of medical services which include primary medical care, health education, health screening programs, and mental health consultation and counseling.

The service consists of an out-patient clinic and a 9-bed in-patient unit staffed by physicians, nurses, psychologists, pharmacists, laboratory and x-ray technicians, and support-

ing personnel. Specialty clinics are available for allergy, minor surgery, orthopedics, mental health, and women's health care. It is housed in the Infirmary, which is centrally located on campus.

The health fee is part of the tuition fee paid by all full-time students; it is optional for part-time students. Because not all services are covered by the health fee, the supplemental student government health insurance plan is highly recommended.

A personal health history questionnaire completed by you is required before registration at the University.

SPEECH AND HEARING CLINIC

The Program in Speech Pathology and Audiology, Department of Speech, offers services without charge to any University student who has a speech or hearing disorder. This assistance is available at any time during the year and therapy sessions are adjusted to individual schedules. The student is encouraged to visit the clinic and to take advantage of this service located in the Arts & Sciences Building, Room 442.

READING AND WRITING CENTER

The University Reading and Writing Center is a free service offered to students at all levels. The Center is located in Room 2107 GPA. For additional information or appointments, the office can be contacted between 8-5 Monday through Friday.

Reading. The reading program offers individual and group courses designed to improve comprehension, rate, vocabulary and study skills. These courses are developed, on the basis of an initial diagnosis, to meet the needs of each individual. Consultation and other services are also available to staff members.

Writing. The writing program is offered to students on a voluntary basis. During scheduled open time help will be provided in such areas as writing thesis statements, organizing papers, and developing essays from outlines. Texts and audio-visual materials to aid in spelling, grammar, and sentence skills are available as well.

Credit. Both programs may be taken for credit or as individual volunteer programs.

Student Life

STUDENT ACTIVITIES AND ORGANIZATIONS

Student Government: Student Government at the University of Florida is a cooperative organization for advancing student interests and is based on mutual confidence among and between the student body, the faculty, and the administration. Considerable authority has been granted the student body for the regulation and conduct of student affairs. The criterion in granting authority to the Student Government has been the disposition of UF students to accept responsibility commensurate with the authority granted them. Student Government has several resources at its disposal to fulfill its mission, including the allocation of approximately three million dollars per year in student activity and service fees, substantial authority in the regulation of co-curricular activities, and administration of the Student Court. The University of Florida faculty and staff feel that training in acceptance of responsibility for the conduct of student affairs at the University is a valuable part of the educational growth and development of the individual student.

Student Government is a body politic, occupying its franchise under grant from the Board of Regents and subject to its continued approval. Student Government is patterned on the state and national form of government but adapted to the local needs of the Student Body. Powers are distributed into the three branches: (1) legislative, which is embodied in the Student Senate; (2) judicial, which is embodied in the Student Honor Court and the Traffic Court; (3) executive, embodied in the President and the Treasurer of the the Student Body. Members of all three branches are elected directly by the Student Body, of which all UF students are members. In addition to elected offices, many appointed positions have been established in Student Government , including Cabinet and sub-Cabinet, Student Court, and the Traffic Court posts.

Student Government, recognizing its limitations as a true "government," attempts to exercise influence on governments at all levels through conferences, lobbying, research, and the advancement of proposals for change.

Students may apply for various positions within the student government structure by contacting the Student Government offices on the third floor of the J. Wayne Reitz Union.

Interhall Council: The purpose of the Interhall Council is to provide an organization which will further serve as a channel of communication between Residence Area Councils, Student Government, and the Student Housing Office as well as coordinating individual Area Council activities and representing the collective interests of all residents.

The voting membership of the Interhall Council consists of two representatives from each of the Area Councils.

Dramatics: Any student has an opportunity to participate in several plays which are presented each year by the Florida Players, a dramatic group under the direction of the Department of Speech.

Student Senate: The Student Senate is composed of representatives elected from the colleges and living areas on the campus and in general acts as the Legislative Branch of Student Government.

Religious Activities: The University of Florida welcomes the contributions of religious traditions to the campus community. The churches, centers, and organizations associated with the University offer a rich variety of programs and ministries. There are also interdenominational and nondenominational activities fostered by the Department of Religion and the Campus Ministries Cooperative.

Social Fraternities: Twenty-eight national social fraternities for men have established chapters at the University. The general work of the fraternities is supervised by the Interfraternity Council, composed of one delegate from each of the representative fraternities. The national fraternities at the University of Florida are Alpha Epsilon Pi, Alpha Gamma Rho, Alpha Phi Alpha, Alpha Tau Omega, Beta Theta Pi, Chi Phi, Delta Chi, Delta Tau Delta, Delta Upsilon, Kappa Alpha, Kappa Alpha Psi, Kappa Sigma, Lambda Chi Alpha, Phi Beta Sigma, Phi Gamma Delta, Phi Delta Theta, Phi Kappa Psi, Phi Kappa Tau, Pi Kappa Alpha, Pi Kappa Phi, Pi Lambda Phi, Sigma Alpha Epsilon, Sigma Chi, Sigma Nu, Sigma Phi Epsilon, Sigma Tau Gamma, Tau Epsilon Phi, and Theta Chi.

Nineteen women's social sororities have established chapters at the University. Sixteen have built chapter houses and three live in other housing arrangements. These living quarters serve as the center of the activities of the individual sororities. Primary jurisdiction in sorority matters is vested in the Panhellenic Council. The chapters at the University of Florida are Alpha Chi Omega, Alpha Delta Pi, Alpha Epsilon Phi, Alpha Kappa Alpha, Alpha Omicron Pi, Chi Omega, Delta Delta Delta, Delta Gamma, Delta Phi Epsilon, Delta Sigma Theta, Kappa Alpha Theta, Kappa Delta, Kappa Kappa Gamma, Phi Mu, Phi Sigma Sigma, Sigma Delta Tau, Sigma Kappa, Zeta Phi Beta and Zeta Tau Alpha.

Professional and Honorary Fraternities:

AGRONOMY AND SOILS CLUB
ALPHA DELTA SIGMA, Advertising
ALPHA ETA SOCIETY, Allied Health Professions
ALPHA KAPPA PSI, Business Administration
ALPHA LAMBDA DELTA, Freshmen scholastic honorary
ALPHA PI MU, Industrial Engineering
ALPHA ZETA, Agriculture
AMERICAN CERAMIC SOCIETY
AMERICAN CRIMINAL JUSTICE ASSOCIATION
AMERICAN INSTITUTE OF AERONAUTICS & ASTRONAUTICS
AMERICAN INSTITUTE OF CHEMICAL ENGINEERS
AMERICAN INSTITUTE OF CONSTRUCTORS
AMERICAN INSTITUTE OF INDUSTRIAL ENGINEERS
AMERICAN INSTITUTE OF MINING, METALLURGICAL AND PETROLEUM ENGINEERS
AMERICAN NUCLEAR SOCIETY
AMERICAN SOCIETY OF AGRICULTURAL ENGINEERS
AMERICAN SOCIETY OF CIVIL ENGINEERS
AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS
ARNOLD AIR SOCIETY, Military
ASSOCIATION FOR COMPUTING MACHINERY
BETA ALPHA PSI, Accounting
BILLY MITCHELL DRILL TEAM, Military
BLOCK & BRIDLE CLUB, Agriculture
CITRUS CLUB
CRIMINAL JUSTICE ASSOCIATION
DAIRY SCIENCE CLUB
DELTA SIGMA PI, Business
DELTA SIGMA RHO, Intercollegiate Forensics
ENDOGENOUS RHYTHM, Zoology
ENTOMOLOGY AND NEMATOLOGY CLUB
EPSILON LAMBDA CHI, Engineering Leadership
ETA KAPPA NU, Electrical Engineering
FLORIDA ANTHROPOLOGY CLUB
FLORIDA BLUE KEY, Leadership
FLORIDA ENGINEERING SOCIETY, Professionalism in Engineering
FOOD AND RESOURCE ECONOMICS CLUB
FOOD SCIENCE AND HUMAN NUTRITION
GARGOYLE HONOR SOCIETY, Architecture & Fine Arts Honor Society
INSTITUTE OF ELECTRICAL & ELECTRONIC ENGINEERS
INSTITUTE OF TRANSPORTATION ENGINEERS
JOHN MARSHALL BAR ASSOCIATION, Law
KAPPA DELTA PI, Education
KAPPA EPSILON, Pharmacy
KAPPA KAPPA PSI, Band
KAPPA PSI, Pharmacy
KAPPA TAU ALPHA, Journalism & Communications
KERAMOS, Ceramic Engineering
LAMBDA GAMMA PHI, Veterinary Medicine
LAMBDA TAU, Medical Technology
MORTAR BOARD, Honor Society
NATIONAL STUDENTS SPEECH & HEARING ASSOCIATION
OMICRON DELTA KAPPA, Leadership and Scholastics
ORDER OF OMEGA, Honorary Fraternity/Sorority Leadership

PHI ALPHA DELTA, Law
PHI BETA KAPPA, Scholarship
PHI CHI THETA, Business
PHI DELTA PHI, Law
PHI ETA SIGMA, Freshman Scholastics
PHI KAPPA PHI, Scholastics
PHI MU ALPHA, Music
PI TAU SIGMA, Mechanical Engineering
PRE-LEGAL SOCIETY
PRE-PROFESSIONAL SERVICE ORGANIZATION
PSI CHI, Psychology
PUBLIC RELATIONS STUDENT SOCIETY OF AMERICA
RHO CHI, Pharmacy
RHO EPSILON, Real Estate
RHO PI PHI, Pharmacy
SAVANT, Leadership & Service Honorary
SCABBARD & BLADE, Military Science
SIGMA ALPHA IOTA, Music
SIGMA TAU SIGMA, Honorary Tutoring
SIGMA THETA TAU, Nursing
SOCIETY OF ENGINEERING SCIENCES
STUDENT AMERICAN PHARMACEUTICAL ASSOCIATION
STUDENT ASSOCIATION IN HEALTH CARE AND HOSPITAL ADMINISTRATION
STUDENT CONTRACTORS AND BUILDERS ASSOCIATION
STUDENT NATIONAL MEDICAL ASSOCIATION
STUDENT OCCUPATIONAL THERAPY ASSOCIATION
STUDENT PHYSICAL THERAPY
TAU BETA SIGMA, Band
UNIVERSITY OF FLORIDA FORESTRY CLUB
UNIVERSITY OF FLORIDA LAW REVIEW
UNIVERSITY OF FLORIDA REHABILITATION ASSOCIATION
UNIVERSITY OF FLORIDA STUDENT AMERICAN GUILD OF ORGANISTS
VEGETABLE CROPS CLUB, Agriculture
WILDLIFE SOCIETY
XI SIGMA PI, Forestry.

Clubs and Societies: There are more than 225 student clubs and organizations on the campus representing varied interests and activities. These include academic interest clubs; social, religious, and professional groups; hobby groups; and organizations dedicated to a wide variety of personal and community concerns. Many of the organizations are funded by Student Government through the allocation of the student activity and service fee monies.

ACADEMIC HONESTY

The University of Florida expects students to be honest in all of their University class work. Therefore, students are required to commit themselves to academic honesty by signing the following statement as part of the admissions process, and again each quarter on their academic advisement card.

"I understand that the University of Florida expects its students to be honest in all of their academic work. I agree to adhere to this commitment to academic honesty, and understand that my failure to comply with this commitment may result in disciplinary action, up to and including expulsion from the University."

This statement serves to remind students of the obligation they assume as students at the University of Florida. Matters of violations of academic honesty are adjudicated by the Student Honor Court.

STUDENT CONDUCT CODE

Students enjoy the rights and privileges that accrue to membership in a university community and are subject to the responsibilities which accompany that membership. In order to have a system of effective campus governance, it is incumbent upon all members of the campus community to notify appropriate officials of any violations of regulations and to assist in their enforcement. All conduct regulations of the University are printed and made available to all students and are applicable upon publication in the *Independent Florida Alligator*, the *University Catalog*, the *UF Student Guide*, or other reasonable means of notification.

Violation of the Code of Conduct. A student may be expelled or receive any lesser penalty for the following offenses:

1. Furnishing false information to the University with intent to deceive.
2. Forgery, alteration, or misuse of University documents, records, or identification cards.
3. Unauthorized use, taking or destruction of public or private property on campus, or acts committed with disregard of possible harm to such property.
4. Actions or statements which by design or consequence amount to intimidation or hazing.
5. Participation in or continued attendance at, after warning to disperse by a University official, a raid on a University living unit.
6. Disorderly conduct.
7. Disrupting the orderly operation of the University as defined in Florida Statutes, Board of Regents' Policies, and the Demonstration Policy of the University.
8. Failure to comply with a University rule or regulation.
9. Violations of Housing Inter-residence hall association, and Area Council regulations.
10. Violation of conduct probation.
11. Possession, use, or delivery of illegal drugs as defined in Florida Statutes; and use of exploding fireworks as defined in Florida Statutes.
12. Possession of a firearm on the University campus except as specifically authorized by University Policy on the Possession and Use of Firearms.
13. Actions or conduct which hinders, obstructs, or otherwise interferes with the implementation or enforcement of the Student Conduct Code.
14. Failure to appear before the Committee on Student Conduct or the Director of Student Judicial Affairs and to testify as a witness when reasonably notified to do so. Nothing in this subsection shall be construed to compel self-incrimination.
15. Violation of any municipal ordinance, law of the State of Florida, or law of the United States.
16. Violation of the University Academic Honesty Guidelines.

For additional information regarding conduct procedures contact the Office for Student Services or consult the *Student Guide*.

INTERCOLLEGIATE ATHLETICS

The University of Florida athletic program is a comprehensive one with teams competing against regional and intersectional opponents in eight intercollegiate sports.

Florida, a member of the Southeastern Conference and the National Collegiate Athletic Association, fields athletic teams in football, basketball, cross country, baseball, track, golf, tennis, and swimming.

Physical facilities include Florida Field stadium with a seating capacity of 62,000, a baseball diamond, a completely equipped varsity tennis stadium, swimming pool, running track, two football practice fields, an 18-hole championship golf course and Florida Gymnasium, a facility which houses ample dressing and training rooms, weight rooms, meeting rooms, four practice courts and the 5,500 capacity varsity court.

Women's Intercollegiate Athletics are offered in gymnastics, golf, swimming, tennis, cross country, softball, basketball, track and field. The program is operated under the Association of Intercollegiate Athletics for Women. Florida is in Region III, Southeast Region.

INTRAMURAL ATHLETICS AND RECREATION

Intramurals is a significant part of the total educational community at the University of Florida. The intramural program provides highly competitive and recreational activities for every segment of the university population. For unstructured leisure time activity, the students, faculty, and staff may picnic, boat and swim at Lake Wauberg, check out equipment from three equipment rooms on campus, play on any of the 18 football fields, 15 softball fields, 12 volleyball courts, 34 tennis courts, 12 four-wall handball-racquetball courts, two squash courts, four indoor basketball courts, five outdoor basketball courts, swim in the Florida pool, or exercise on the Universal Gym.

For structured competitive play, the intramural department organizes tournaments in the following leagues: All University Special Events, Co-Recreational, Men's and Women's residence halls, Student Wives, Engineering, Faculty/Staff, Fraternity, Men and Women Open, Men and Women Independent, Law, Sorority, Little Sister, Married Students, and ROTC. The Club Program offers instruction, recreational and competition, in approximately 43 clubs, including Folk Dance, Karate, Sailing, Skiing, Weight Lifting, Archery, and many more.

Student participation and student administration is a tradition in the intramural program at the University. Students officiate the games, manage the leagues, act as Student Director and Office Director in the Intramural Office, serve on the Protest Board and on the Intramural Policy Board.

The current importance and growth of recreational sports on campus is unmatched in the history of the University. We invite everyone to use this resource at the University to fulfill their leisure time interest.

AUTOMOBILE AND TRAFFIC REGULATIONS

Any student of the University of Florida is eligible to register a motor vehicle for use as authorized and to operate and park a registered vehicle on campus. The type of parking decal issued is determined by the student's local residence and student classification.

Students desiring to park on campus during restricted hours must register their automobiles, motorcycles or mopeds at the University Traffic and Parking Department, 1088 Johnson Hall, during their first registration period. Failure to do so will result in a parking citation. There is a system for fines and a point system for on-campus vehicle violations. Persons failing to respond to tickets will be subject to an additional administrative fee of $5.00 and will not receive grades or an academic transcript until delinquent fines and fees have been paid.

A copy of the rules governing traffic, parking and registration of vehicles on campus may be obtained from the Traffic and Parking Department located in Johnson Hall. Each student is urged to familiarize himself with these regulations upon registering at the University.

Student Academic Regulations

Additional information relative to graduation, social activities, failure in studies, conduct, etc., may be found in the Student Guide *and the sections of the catalog containing regulations of the separate colleges and schools. Each student should become familiar with rules and regulations of the University.*

READMISSIONS

APPLICATION FOR READMISSION

The information contained in this section applies only to students who have previously been admitted at any level to the University of Florida. Requirements for admission for a student seeking to enroll in the University of Florida for the first time will be found in the Admissions section of this catalog. Please consult the INDEX for page numbers.

How to Apply for Readmission: An applicant should address a request to the Office of the Registrar for application forms. Forms and directions vary with the level of readmission. The applicant should indicate in the request the college and the level of last enrollment at the University of Florida as well as the college and level for which he or she wishes to apply. Applications must be received in the Office of the Registrar by the deadline date for the term, as published in the University Calendar.

READMISSION OF STUDENTS

1. *Satisfactory academic record.*

   a. An applicant must be eligible to return to the University of Florida on the basis of one's previous academic record at this institution. If the applicant has attended any college or university subsequent to enrollment at the University of Florida, he or she must also have an average of "C" or higher (as computed by the University of Florida) on all work attempted at each institution. The applicant must also be in good standing and eligible to return to each institution previously attended.

   b. An applicant for readmission must meet the admission requirements of the college or school he or she expects to enter. (Consult the appropriate college section of the catalog for specific admission requirements.)

2. *Satisfactory conduct record*

   a. An applicant must present a satisfactory record of conduct. Regardless of other qualifications, an applicant who has experienced major or continuing difficulties with school or other authorities since the last enrollment at the University of Florida may find his or her application for readmission disapproved.

3. *Submission of Request*

   a. An applicant for readmission should indicate the name under which he or she was registered when last enrolled and the social security number.

Credits

The word credit as used in this catalog refers to one quarter hour.

DEGREES AND GRADUATION

The Board of Regents will confer the degree appropriate to the course pursued under the following conditions:

1. *Curriculum requirements:* Certification by the Dean of the college concerned that all requirements of the course of study as outlined in the college announcement, or its equivalent, as determined by the faculty of the college offering the course, have been completed.

2. *Recommendation of the faculty of the college awarding the degree.*

3. *Residence requirements:* (a) The minimum residence requirement for the baccalaureate degree is three quarters. (b) Students are required to complete the last forty-five credits applied toward the baccalaureate degree during regular residence in the college from which the student is to be graduated. Exception to this regulation may be made only upon written petition approved by the faculty of the college concerned. (c) For residence requirements for degrees in the Colleges of Law, Medicine, Dentistry, or Veterinary Medicine, see the catalog of each college. (d) For residence requirements of the various graduate degrees, see the *Graduate School Catalog.*

4. *Physical Education Requirements:* Each student who enters as a Freshman or Sophomore must complete the course Basic Concepts of Physical Education (PEM 1100).

5. *Average Required:* In order to secure a degree, a student must have a "C" average or better in all credits required toward that degree.

6. *Two Degrees:* Two degrees of the same rank, e.g., B.A. and B.S. may be conferred upon the same individual provided that the second degree represents at least forty-five credits of additional work, with the necessary qualitative and residence requirements.

7. *Continuous Attendance:* When a student's attendance is continuous, graduation according to the curriculum under which he or she entered is permitted, provided the courses required are offered by the University. If some or all of the required courses are no longer offered, the faculty of the college concerned will make such adjustments for the individual students as are appropriate for the curriculum involved. As long as a student attends the University as much as one quarter during any calendar year, his or her residence is continuous.

8. *Summer Quarter Enrollment:* Effective September 1, 1976 all students entering a university in the State University System with less than 90 hours credit shall be required to earn at least 15 credit hours prior to graduation by attendance at one or more summer quarters. University Presidents may waive the application of this rule in cases of unusual hardship to the individual.

9. *Application For Degree:* Students expecting to graduate must file an application for the degree in the Registrar's Office on or before the date indicated in the current University Calendar. Students must apply in the quarter in which they expect to graduate, regardless of previous applications in previous quarters.

10. *Time Limit:* To receive a degree a candidate must have completed: (a) all residence work required for graduation at least 24 hours prior to the scheduled meeting of the College Faculty voting on the candidates for degrees; (b) all extension work at least two weeks prior to the scheduled meeting of the College Faculty voting on the candidates for degrees.

11. *Time-Shortened Degree Opportunities:* A variety of programs is offered by the University of Florida which may enable students to shorten the length of the time necessary for them to complete their degree requirements. These opportunities include several credit by examination programs, and other options. For specific information, refer to the section listed in the table of contents entitled "Time Shortened Degree Opportunities." Also refer to the college descriptions for additional information

12. *Extension Work Permitted:* (Note: Extension work as used below refers to both extension classes and correspondence study.)

   a. Students may take a maximum of eighteen credits of extension work during any academic year.

   b. Students may not take more than twelve credits of extension work during a quarter.

   c. The amount of extension work which a student may apply toward degree requirements may not exceed one-fourth of the amount required for the degree. For additional or unique restrictions on extension work allowed toward a degree students should refer to the appropriate

section of this catalog or consult with the dean of the college concerned.

d. Students may not take, by extension work, more than eighteen of the last fifty-four credits necessary for a baccalaureate degree.

e. Simultaneous registration in on-campus and extension work is permitted provided that approval has been obtained from the dean of the college in which the student is registered.

13. *Registration of Graduate Students:* A student must be registered in the University for the term in which the candidate's final examination is given and at the time he or she receives a degree.

14. *Repeat Course Work:* Credit will not be allowed on repeated course work if the course that is repeated contains essentially the same course content as it did when the student initially enrolled for the course.

15. *Pending Charge of Academic Dishonesty or Code of Student Conduct Violation:* No degree will be conferred upon a student against whom there is pending an unresolved charge of either Academic Dishonesty or Code of Student Conduct violation where the penalty for such violation would likely be:

a. Suspension
b. Expulsion
c. Failing Grade
d. Any combination of the above until such time as the charge is resolved and degree requirements are met.

MAXIMUM AND MINIMUM LOAD

Some colleges have a maximum load which is stated in the catalog. In the absence of such a statement, the general University regulation applies. This regulation allows a maximum load of 15 credits for a student who earned an average below a "C" the preceding quarter of attendance. The minimum load for all undergraduate students is 12 hours.

Simultaneous enrollment in correspondence courses, extension work at another college or university is counted in computing the maximum, but not the minimum load.

At the time of registration, a student, upon the approval of his or her dean, may register for less than the minimum or more than the maximum load. After the late registration period has closed, no student attending under the above conditions will be permitted to drop below the minimum load unless the student successfully petitions the college in which he or she is enrolled. The minimum load for fulltime benefits from the VA or Social Security is 12 hours per quarter for undergraduate students.

DUAL ENROLLMENT

1. *Definition:* Dual Enrollment, as used in this regulation, refers to a student taking on-campus courses simultaneously at BOTH the University of Florida and another institution.

2. *Dual Enrollment will be permitted ONLY under the following conditions:*

a. Approval in writing for the dual enrollment must have been secured by the student from the appropriate official at EACH institution. A copy of such approval must be furnished at the time of registration to the registrar at the University of Florida.

b. A student will not be permitted to register at the University of Florida for a course which is a part of the curriculum at the student's parent institution. This requirement also applies if courses are available at the parent institution which might be evaluated as equivalent or acceptable substitutes for the University of Florida course. The converse of these statements also applies to University of Florida students registering for courses at another institution.

c. Priority in assignment to classes at the University of Florida will be given to regularly enrolled students.

d. A student taking courses at the University of Florida will be required to register and attend classes under the University of Florida calendar.

e. The student will pay appropriate fees at the University of Florida based on the number of credit hours for which he or she is registered at this institution.

It is the student's responsibility to insure that an official transcript of work completed under a dual registration is forwarded to the parent institution. Certification to social security and veterans administration programs is also the responsibility of the individual student who must request each individual institution to furnish records as might be necessary.

NON-DEGREE REGISTRATION

A student not previously registered at the University of Florida may with college approval register for one quarter only as a non-degree student. Members of the faculty and staff and those with special permission from their college may consider registering as non-degree students for more than one quarter. Registration will be on a space available basis. Procedures for registering are available from the Registrar's Office.

GRADES

Results of student's work are recorded in the Registrar's Office as follows:

1. *Undergraduate Students:* Passing grades are A, B+, B, C+, C, D+, D, in order of excellence, and S-Satisfactory. Failing grades are E — Failure, I — Incomplete, U — Unsatisfactory, X — Absent from examination, EW — Dropped for nonattendance or unsatisfactory work, and WF — Withdrew failing. The grade of EW is not a valid grade after 1979-80.

Grades of I and X are considered as failing grades. They must be changed to passing grades in accordance with the dates set in the University Calendar, or be converted to grades of E.

In special situations where it is not possible to assign regular grades at the end of the term, a deferred grade may be assigned. The symbol for a deferred grade is a grade of H. This grade may be assigned only in special cases, such as modular courses, confined to infirmary, and similar circumstances. A grade of H will not be computed in a student's grade point average.

The degree-granting college may require a minimum grade of C in a particular course or courses.

2. *Graduate students:* Passing grades for graduate students are A, B+, B, C+, C and S. Grades of "C+," and "C" in courses below 5000-level are acceptable for credit toward graduate degrees only if the total program meets the B-average requirement. C+ and C grades in 5000-level courses and above count toward a graduate degree only if an equal number of credit hours in courses numbered 5000 or above have been earned with grades of B+ and A, respectively.

SATISFACTORY-UNSATISFACTORY GRADE OPTION

It is the University's desire to allow students to receive as broad an education as possible. Therefore, students are encouraged to take courses in disciplines in which they may not have the proper background. They may take such course work as electives and receive a grade of S — satisfactory or U — Unsatisfactory. These grades become a part of a student's record, but do not count in the grade point average as computed by the University of Florida. NOTE: Other agencies or institutions might count the grade of U as a failing grade in their grade point average computation.

To be eligible to enroll under the S-U option, a student must 1) be in good standing — may not be on any type of probation, or warning, 2) be classified as an undergraduate student, and 3) have approval from proper university officials.

Only one course will ordinarily be approved in any one

quarter. Approvals for exception to this policy must be obtained from the dean of the college in which the student is registered. Standard exception — Required Physical Education may be taken under the S-U option even when the option has been elected in another course.

The deadline for electing the S-U option is the last day for dropping or adding a course as published in the calendar. In addition, students who elect the S-U option may subsequently request that their instructors assign a standard grade. However, it is at the instructor's discretion whether to grant this request.

AVERAGES

1. *Definitions:* The term "average," as used in any university regulations concerning probation or suspension, always refers to the average on work attempted at the University of Florida. Grades received at other institutions are not averaged with grades received at the University of Florida for the purpose of meeting any University average requirement. Most honorary societies take into consideration the quality of the work done at other institutions in meeting any average requirements they may have.

2. *How computed:* Averages are determined by computing the ratio of grade points to quarter hours recorded as attempted. Grade points are established by equating each quarter hour as follows: A with 4.0, B+ with 3.5, B with 3.0, C+ with 2.5, C with 2.0, D+ with 1.5, D with 1.0, and E, WF, EW, I, and X with 0.0. In computing averages, a course repeated is counted as many times as grades for it are recorded. Hours for grades of S, U, and H are not computed in the University of Florida grade point average.

3. *Grade Point Averages:* Students' grade point averages will be based on their overall work at the University of Florida. That is, when students are admitted to the University of Florida their grade point averages begin and their academic averages will be based upon work taken at the University of Florida. While work transferred from other institutions toward a degree program at the University of Florida will count in total hours earned, such hours will not be a part of the University of Florida grade point average.

PROBATION, SUSPENSION, AND EXCLUSION FOR ACADEMIC REASONS

The University of Florida is responsible for providing the best possible education in an economical and efficient manner. In order to discharge this responsibility, the University expects and requires reasonable academic progress from its students. Continuation of students who have demonstrated a lack of the necessary ability, preparation, industry, or maturity to benefit reasonably from a program of university study is inconsistent with the University's responsibility as a tax supported institution.

The University of Florida Senate has enacted regulations covering probation, suspension, and exclusion. These regulations are directed toward enforcing the academic standards of the University. The academic standards of the University require both the maintenance of grade point averages consistent with a reasonable chance of satisfactory completion of the University programs and reasonable conformance to the catalog description of the program of study in which the student is engaged. Any college of the University may specify additional academic standards and students are responsible for observing the regulations pertaining to such standards.

PROBATION BECAUSE OF UNSATISFACTORY ACADEMIC ACHIEVEMENT

The purpose of academic probation is to recognize formally the fact that a student is not making satisfactory progress.

The conditions of academic probation are intended to: (1) relate to quality of achievement below standards required ultimately to graduate; (2) recognize unsatisfactory work at an early date; (3) be sufficiently significant to make clear to the student, and the administration, the short-comings of the student's performance; (4) provide occasion for counseling; (5) give students whose ultimate success is doubtful further opportunity to demonstrate adequate performance.

All undergraduate students:

A student with less than a 2.0 grade point average overall for University of Florida work shall be placed on scholarship warning if he or she has a grade point deficit which is less than ten.

A student with less than a 2.0 grade point average overall for University of Florida work shall be placed on scholarship probation if he or she has a grade point deficit of ten or more, but less than twenty.

Any student who is eligible to return to the University after a suspension because of academic reasons will be placed on final scholarship probation for his or her next quarter.

In addition to University probation, students may be placed on probation by the colleges in which they are registered if they do not maintain normal academic progress in the program of study in which they are engaged.

CONTINUATION OF PROBATION

All Undergraduate Students:

A student's scholarship warning shall be continued as long as he or she has a grade point deficit of less than ten. A student's scholarship probation shall be continued as long as he or she has a grade point deficit of ten but less than twenty. If the grade point deficit places him or her in another probation category, the student shall be subject to the provisions of that category.

REMOVAL OF PROBATION

All Undergraduate Students:

Scholarship probation or scholarship warning will be removed when a student's grade point deficit has been reduced to zero.

Removal of college probation:

A student will be removed from college probation when it is deemed by his or her college that the student is making satisfactory academic progress in the program of study in which he or she is engaged.

SUSPENSION

The purpose of suspension from the University for academic reasons is to remove from the University community those students who would not ultimately meet requirements for graduation if they continued at their current level of progress.

The conditions of academic suspensions are intended to (1) select students whose performance indicates that they will not fulfill the requirements for graduation; (2) encourage students to leave the University as soon as a high probability of failure is evident.

All undergraduate students:

Students with a grade point deficit of twenty or more in their University of Florida work shall be suspended from the University for one quarter

A student re-enrolling after a one quarter suspension will be on final scholarship probation. If the grade point deficit is twenty or more at the end of the quarter the student re-enrolls, he or she will be suspended without the possibility of re-registering except by committee action

EARNING CREDIT WHILE SUSPENDED

A student under any kind of academic suspension at the University of Florida may not earn credit toward a degree at the University of Florida by taking work in residence at another institution or through extension or correspondence courses.

However, a student who was suspended for academic reasons and who has not yet earned the Associate of Arts Certificate who subsequently graduates from an accredited Florida Community College may appeal to the Petitions Committee for reinstatement. The Petitions Committee may then, upon the recommendation of the college in which the student wishes to enter, admit the student on academic probation to that college or school. Credits earned by such students while under suspension from the University of Florida may be transferred in accordance with other rules and regulations of the University of Florida.

EXCLUSION

Freshman and Sophomore students:

A student classified UF who has attempted 125 quarter hours (this includes all work accepted by transfer and all work attempted at the University of Florida) shall be ineligible for further registration at the University unless he or she applies for a change of classification and is formally admitted to a degree program.

All undergraduate students:

A student may be excluded from a program of study by the College responsible for the program if the student fails or refuses to maintain normal academic progress. Such exclusion does not prohibit the student from enrolling in other programs or colleges if he or she meets the requirements.

Graduate students:

Graduate students may be denied further registration in the University or in their graduate major when their progress toward completion of their planned graduate program becomes unsatisfactory. Unsatisfactory progress has been defined by the Graduate Council to include failure to maintain an accumulative grade average of 8 in all work attempted in the Graduate School.

DROPPING COURSES

No student will be allowed to drop a course during the last two weeks of regularly scheduled classes without receiving failing grades. Any student seeking an exception to this policy must petition the University Petitions Committee.

WITHDRAWALS

All undergraduate students:

It is the responsibility of each student to make every effort to complete the full quarter at the University. If any student withdraws after the date published in the calendar, he or she shall be assigned grades of WF (withdrew failing) in all courses, and will be subject to the suspension and exclusion regulations.

A student on scholarship probation who withdraws from the University prior to the final date published in the calendar will be continued on scholarship probation for the next quarter.

ABSENCES OR UNSATISFACTORY WORK

Students are responsible for satisfying the entire range of academic objectives as they are defined by the instructor in any course. For students whose names appear on the initial class roll, absences count from the first meeting of the class.

Any student who has not attended at least one of the first two class meetings of a course or laboratory in which he or she is registered and has not contacted the department which offers the course to indicate intent to remain in the course *may* be dropped by the chairman of the department which offers the course *if* the chairman deems this action necessary to provide space for other students who wish to add the course. Students dropped from courses or laboratories through this procedure will be notified by notice posted in the department office. Such students may be reinstated in the course or laboratory on a space available basis if documented evidence excusing the absences is presented to the department chairman.

NOTE: Students must not assume that they are *automatically* dropped if they fail to attend the first few days of class since these actions may not necessarily be taken in all courses and laboratories.

NINE-DAY RULE: No students shall absent himself or herself from the University for more than nine scholastic days per quarter in order to participate in athletic or in extracurricular activities. (A scholastic day is any day on which regular class work is scheduled.)

The nine-day rule applies to individual members of the group rather than to the group as a whole. Consequently, a schedule of more than nine days for any group should by rotated so that no student is absent from the campus for more than nine scholastic days.

A student who has been warned for absences or unsatisfactory work in any class should not incur additional absences in that course even though he or she has not been absent from the University for nine scholastic days. It is the responsibility of the student to see that his or her class work and attendance are satisfactory.

POST BACCALAUREATE STUDENTS

The probation, suspension, and exclusion regulations that apply to undergraduate students also apply to post-baccalaureate students.

CLASSIFICATION OF STUDENTS

Students will be classified by the Registrar each quarter as follows:

0. Special transient or other non-degree students who have been permitted to register at the University of Florida will be classified as 0.

1. A student with less than 45 hours credit will be classified as 1.

2. A student who has earned 45 quarter hours or more, but less than 90, will be classified as 2.

3. A student who has earned 90 quarter hours or more, but less than 135, will be classified as 3.

4. A student who has earned 135 quarter hours or more will be classified as 4.

5. A student who is a candidate for a degree in a program which normally requires 15 quarters and has earned 180 quarter hours or more will be classified as 5.

6. Post-Baccalaureate students: Degree-holding students who have been admitted to post-baccalaureate status will be classified as 6.

7. A graduate student who is seeking a Master's degree will be classified as 7.

8. A graduate student who has earned a Master's degree, or has earned 54 or more hours while seeking a degree beyond the Master's degree (but has not been admitted to doctoral candidacy), will be classified as 8.

9. A graduate student who has been admitted to doctoral candidacy will be classified as 9.

PETITIONS AND APPEALS

In case the operation of a student academic regulation ap-

pears to result in an undue hardship on an individual student, he or she may petition for waiver of the regulation.

When petitions pertain to requests for change of schedule after the date authorized for change, exceptions to minimum-maximum load regulation, or permission to drop a course without a failing grade after the drop date, such petitions should be presented to the School or College in which the student is enrolled. Petitions approved by the School or College must be reported to the Registrar's Office before the action becomes official.

All other petitions should be presented to the Registrar who will refer them to the University Senate Committee on Student Petitions. No petition for readmission may be filed after regular registration has started for the quarter.

The student seeking waiver of regulation through petition must remember that no committee on petitions can direct an instructor to reinstate a student dropped from a course for absence or unsatisfactory work, nor can the Senate Committee require any college or school to grant a degree by waiving any of these regulations.

ADMINISTRATIVE PROVISIONS

All actions taken under these regulations shall be reflected by appropriate notations on the student's record.

MAINTENANCE OF STUDENT RECORDS

The Registrar's Office maintains students' academic records. A progress report is sent to each student at the end of the term indicating his or her grades, cumulative hours and grade points, probationary status, if any, and degrees awarded, if any.

CONFIDENTIALITY OF STUDENT RECORDS

The University of Florida assures the confidentiality of student educational records in accordance with State University System rules, state statutes, and the Family Educational Rights and Privacy Act of 1974, known as the Buckley Amendment.

In general, a present or former student has the right to personally review his or her own educational records for information and to determine the accuracy of these records. Parents of dependent students, as defined by the Internal Revenue Service, have these same rights. A photo I.D. or other equivalent documentation, or personal recognition by custodian for record will be required before access is granted.

AUDITING COURSES

Auditing may be approved on a space-available basis. The approval of the instructor and Dean is required, in addition to payment of course fees. Procedures for auditing courses are available at the Registrar's Office.

Time Shortened Degree Opportunities

The University of Florida provides numerous opportunities by which students may accelerate their academic careers and reduce the overall length of time spent in completing degree requirements. These opportunites are explained below:

1. *Early Admission:* The Early Admission program allows superior students to be admitted to the University following completion of the Junior year in high school. Applications are encouraged and will be considered on an individual basis by the Admissions Committee. For additional information, refer to the Admissions section of the catalog.

2. *Dual Enrollment:* Dual Enrollment refers to a student taking on-campus courses simultaneously at both the University of Florida and another institution. For example, a high school student could register at the University as a non-degree student. The credits earned prior to high school graduation could then be accepted for advanced standing placement and degree-credit when the student is admitted to the University. For more information, high school students may refer to the description of non-degree registration within the Student Academic Regulations section.

University of Florida students may also earn additional credit through the dual enrollment program. For more information, refer to the discussion of dual enrollment within the Student Academic Regulations section.

3. *Increased Course Load:* Capable students who register for more than the normal 15 hours per quarter may complete the traditional four-year span within three years.

4. *Year-Round Attendance:* Students attending the University every quarter, including Summer sessions, may advance their graduation date by as much as three quarters.

5. *Credit by Examination:* A student may participate in a variety of credit by examination programs in order to earn credit toward a degree awarded by the University of Florida. Credit received from one examination program may not be duplicated by another. The various credit by examination programs are explained below:

Advanced Placement Program: This credit by examination opportunity is sponsored by the College Entrance Examination Board. Under this program, a student entering the University offers a nationally graded examination as evidence of completion of a college level course taken in high school. If the results of the examination meet the minimum requirements listed below, the student may receive University credit for courses covering similar material.

Advanced Placement Examination	Minimum Score Required for Credit	Course Number	Maximum Quarter Hours Credit
American History	3, 4	AMH 2010	5
	5	AMH 2010, 2020	10
European History	3, 4	EUH 2001	4
	5	EUH 2001, 2002	8
Mathematics	3	MAC 3311	5
	4	MAC 3311, 3312	10
	5	MAC 3311, 3312, 3313	15
Biology	3	APB 2150	4
	4	APB 2150, 2151	8
	5	APB 2150, 2151, 2152	12
Chemistry	3, 4, or 5	CHM 2040	4
Physics	3, 4, or 5	PHY 2050, 2050L	5
Languages	3	1100	5
	4	1100, 1121	10
	5	1100, 1121, 1122	15
English	3	ENG 1400	4
	4	ENG 1200, 1400	8
	5	ENC 1102, 1200, 1400	11
Classics Virgil	3, 4, or 5	CLT 3340	4
Classics Lyrics	3, 4, or 5	HUM 2210	4
*Music	3, 4, or 5		
*Art	3, 4, or 5		

College Level Examination Program (CLEP): The College Level Examination Program is another type of credit by examination opportunity sponsored by the College Entrance Examination Board. By presenting appropriate scores, students may receive as many as 45 hours credit toward completion of general education requirements. Their scores on the CLEP general examinations must meet the minimums established by the State University System. In addition, students who plan to apply for credit must do so before enrolling or, at the latest, prior to the end of their first term at the University. CLEP testing is periodically available on the campus and is administered by the Office of Instructional Resources.

In accord with the Articulation Agreement (agreement between public community colleges and public state universities on the acceptance of credit by transfer), the University of Florida awards credit for CLEP scores based on the following scaled scores:

CLEP General Examination	Minimum Score Required for Credit	Maximum Quarter Hours Credit
**English	Scale Score 610	9
Social Sciences	Scale Score 488	9
Biology	Sub Score 50	4.5
Physical Sciences	Sub Score 49	4.5
Humanities	Scale Score 489	9
Mathematics	Scale Score 497	9

Additional credit may be awarded for satisfactory scores on the CLEP subject area examinations.

Departmental Examinations: A student may also receive credit through the challenge of departmental course examinations. For specific information, contact the departments or colleges.

*The course numbers and quarter credit values for these tests have not been determined as of this printing. Questions should be referred to the Admissions Office.

**Students should seriously consider their decision about taking the CLEP general examination in English. Experience has shown that those who score below the 75th percentile are often handicapped because they have not had college courses in composition. However, those students who do decide to take the CLEP English examination are required to take the option that includes an essay examination so that their scores will be at least partially based on a writing sample.

The College of Liberal Arts and Sciences

AMERICAN STUDIES
ANTHROPOLOGY
ART
ASIAN STUDIES
ASTRONOMY
ATMOSPHERIC SCIENCES
BEHAVIORAL STUDIES
BIOLOGICAL SCIENCES
BOTANY
CHEMISTRY
CHINESE
CLASSICS
COMPUTER AND INFORMATION SCIENCES
CRIMINAL JUSTICE
ECONOMICS
ENGLISH
GEOGRAPHY
GEOLOGY
GERMANIC AND SLAVIC LANGUAGES
GREEK
HEBREW
HISTORY
HUMANITIES
INDIVIDUAL INTERDISCIPLINARY STUDIES
JAPANESE
LATIN AMERICAN STUDIES
LINGUISTICS
MATHEMATICS
MUSIC
PHILOSOPHY
PHYSICAL SCIENCES
PHYSICS
POLITICAL SCIENCE
PSYCHOLOGY
RELIGION
ROMANCE LANGUAGES
SOCIAL SCIENCES
SOCIOLOGY
SPEECH
STATISTICS
SWAHILI
THEATRE
ZOOLOGY

The College of Liberal Arts and Sciences

The College of Liberal Arts and Sciences was formed September 1, 1978 by the merger of the College of Arts and Sciences and the University College. It is the gateway college for entering freshmen and other students with fewer than 96 credits, providing for their academic advisement and their general education. It also provides advanced education leading toward degrees in a variety of disciplinary and cross-disciplinary fields in arts and sciences.

Culturally and historically the programs of the College of Liberal Arts and Sciences represent the core of all higher education. The humanities, the social sciences, the natural and biological sciences — all are studied in the College and all contribute to to the richness of its program.

The major aim of the College is to impart the ideas, concepts, motivations, and skills of a liberal education to its students to enable them to assume leadership positions in society. Intellectual inquiry, the intelligent evaluation of ideas, an appreciation of the dominant thought patterns of the world are the tools the College insists that its graduates possess. Upon these fundamentals they can build personally rewarding lives and careers. They will also be prepared to pursue a field to its frontier through further study in the graduate and professional colleges.

Entering freshmen are classified UF. They may retain this classification up to but not beyond 125 attempted credits. Students pursuing degrees from the College of Liberal Arts and Sciences should apply for the LS classification as soon as they are firm about their major and have demonstrated success in university work. Students pursuing majors in other colleges should apply for admission to the college of their major at the appropriate point, usually 96 credits but earlier in the case of some colleges. Each college specifies admission requirements in its section of the catalog.

The LS classification applies to students pursuing Liberal Arts and Sciences degrees. Most such students are in their junior or senior years but, as noted above, freshmen and sophomores may be approved for the LS classification. Qualified students who are admitted by transfer from other institutions with 96 or more credits are classified LS.

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INFORMATION FOR FRESHMEN AND SOPHOMORES (STUDENTS CLASSIFIED UF)

ACADEMIC ADVISEMENT

Initial registration as a freshmen for each Fall class is conducted during the preceding summer months. Students and their parents have an opportunity to attend one of several two-day programs. Notices concerning this are mailed in the late Spring to those students who have been admitted by the University Admissions Office. At these Summer Registration Programs, students and parents attend sessions relating to career choice, student activities, helping services and course selection. Each student meets with an academic adviser who assists in selecting courses to take in the Fall.

Those fall students who cannot attend a Summer Registration Program confer with academic advisers as a part of the registration period held in the week prior to the beginning of classes in the Fall. Students entering college in the Winter, Spring or Summer quarters also have advisement conferences as a part of the registration period prior to classes.

In the latter part of each quarter, students register for their next quarter. Again academic advisers are available to discuss course selection. It is expected that students shall accept responsibility for fulfilling curricular requirements as stated in the catalog and students who are making successful progress are not required to see an advisor when registering. Students who are changing majors or who are not maintaining a "C" average are urged to talk to an adviser about course selection.

In the first few days of each quarter (see deadlines in calendar printed on early pages of this catalog) students should review their course selection and add or drop courses if needed to make a reasonable load for the quarter in view of past grades and current goals. If, during the quarter, a student feels he must drop a course because of illness or other emergency he will find academic advisers office available for discussion of the problem. Advisers are also available to help the student define any other academic problem and find corrective measures through the College Academic Advisement Office, 358 Little Hall.

COUNSELING AND RELATED SERVICES

In addition to assistance from academic advisers, students may find that one or more of the following offices can be of assistance in solving personal problems, career selection problems or problems relating to deficiences in academic skills. The Student Affairs section of this catalog describes their specific services.

1. Reading and Writing Center
2. Speech and Hearing Center
3. Student Health Service
4. University Career Planning & Placement Center

In addition, the University Vocational and Psychological Counseling Center provides professional psychological services to students. These include vocational guidance, career information, assistance with academic problems, specialized testing, marriage counseling and personal counseling. Any student may apply in person for such services as he deems necessary. No charge is made. The Counseling Center offers consultative services to University faculty and staff who are engaged in counseling students. Close relationships are maintained with deans, college advisers, housing personnel, the Student Health Service, and religious centers, for the purpose of expediting both counseling and consultative services.

METHODS OF COLLEGE ACCELERATION

Details concerning acceleration are provided in the part of the catalog entitled "TIME SHORTENED DEGREE OPPORTUNITIES".

Students who obtain credit via CLEP or Advanced Placement must do so before starting college or, at the latest, prior to the end of their first term at the University. Students who obtain general education credit by examination may take further work in the areas covered, using it for elective credit. Some credit by examination may not serve to accelerate a student's program because the specific course requirements of his major are not satisfied by general subject matter credit.

A student who chooses to attend four academic quarters each year may accomplish the work of four academic years in three calendar years. Students may take such Summer work at their local community college prior to completion of 96 credits. After completion of 96 credits only work taken at accredited colleges or universities (not junior colleges) is accepted as transfer credit. Students are urged to discuss any such plans with a College academic adviser prior to enrolling in courses at another school.

Unusually able students may choose to accelerate by carrying heavier than average course loads rather than applying themselves more deeply to normal loads. In some majors such a student might trim one to two quarters off of the time required for his degree; however, at considerable risk to the depth and quality of his education.

SPECIAL PROGRAMS FOR UF STUDENTS

1. THE SPECIAL SERVICES PROGRAM

This program is designed to give educationally disadvantaged students who qualify for admission by evidence of strong motivation and ability, assistance in developing those academic skills needed for successful progress in the University of Florida. The program consists of counseling, special assistance in reading and study skills, structured study experience via the Office of Instructional Resources Teaching Center and tutoring. In addition efforts are made to obtain some financial assistance in the form of jobs, loans or scholarships for students engaged in the program. Admission to the Special Services Program is selective and only a limited number of students can be engaged.

2. THE FRESHMAN HONORS PROGRAM

This program is limited to students from each entering class who are issued special invitations to participate. These students become members of small tutorial classes. The small size of the classes and the high quality of the students make possible deep penetration into course materials and encourage independent work. The students develop their critical faculties through extensive reading, work on research papers, and oral performance in class. Students who successfully complete their freshman year may be eligible to continue in honors in the sophomore year.

GENERAL EDUCATION AND THE ASSOCIATE OF ARTS CERTIFICATE

The College of Liberal Arts and Sciences has the primary responsibility for the supervision of the general education program of the University. To this end its departments provide general education courses and the college awards the Associate of Arts Certificate of the University. All graduates of the University must complete the general education program and be eligible to receive the Associate in Arts Certificate prior to receiving the baccalaureate degree. Students entering the University of Florida with less than 90 credits must remain in a UF classification in the College of Liberal Arts and Sciences at least one quarter, after which they may transfer to the college of their major when that college approves. Students who maintain a 2.0 grade point average may remain, barring suspension, in the UF classification beyond 96 credits to complete requirements for admission to the college of their major, except that no student may remain in this classification beyond 125 credits.

In planning each quarter's program students should obtain some balance of general and special education, of science and non-science. The undecided students should be careful to make progress in their general education while trying out courses in specific majors. Typically students complete the greater part of their general education in the first two years while also taking the preprofessional courses specified for their major.

The Associate of Arts Certificate will be awarded upon completion of:

1. 96 credits including authorized credits in general education as indicated for the student's major.
2. An overall C average.

Application forms for the Associate of Arts Certificate are available from the Office of the Registrar and should be returned to the Office of the Registrar.

AUTHORIZED COURSES FOR GENERAL EDUCATION

The following courses have been approved by the Council on General Education for use in satisfying general education requirements. In selecting from among these authorized courses, students should keep in mind that the general education part of their university program should serve to increase their fund of knowledge outside their major and should broaden their intellectual horizons. The students, therefore, must neither select courses in only one discipline nor use courses within the scope of the major to satisfy general education requirements. *Only in strongly sequential and crowded majors such as mathematics and science is it permissible to use courses in the major for both purposes.* In selecting courses students should study course descriptions in the back of the catalog, since course titles alone give insufficient information. Freshmen and sophomores are advised not to take advanced courses (3000 and 4000 level) for which they are unprepared. Stated prerequisites must be adhered to. Additional courses may have been added to this authorized list by the time of publication. Students should consult their advisors for such information.

MATHEMATICS (Minimum Credits Required) 4
MGF 1113 — Fundamental Mathematics
MGF 1114 — Fundamental Mathematics: Special Topics
Any Mathematics course except those with a prefix of MAE
Any Statistics course

ENGLISH (Minimum Credits Required) 9

The following English courses have been specifically designated as courses to fulfill general education requirements.
ENC 1102 — Expository Writing
*ENC 1418 — Argumentative and Persuasive
The third course may be selected from the following group.
ENG 1200 — Introduction to Fiction
ENG 1400 — Introduction to Drama

ENG 1710 — Introduction to Poetry
AML 2020, 2021 — Survey of American Literature
AML 4301 — Themes, Genres, and Movements in American Literature
ENG 3221, 3222 — American Fiction
ENG 4745 — American Poetry — Nineteenth and Twentieth Century
LIT 3342 — Afro-American Literature
ENL 2130 — Introduction to Shakespeare
ENL 2031, 2034, 2042 — Survey of English Literature
ENL 4135 — Shakespeare: Early Plays
ENL 4136 — Shakespeare: Late Plays
ENG 3315, 3321, 3325 — The English Novel
ENG 4748 — Modern English Poetry

English College Honors, ENG 2932 (9 credits) may be used to satisfy general education requirements in English.

*If instruction in this course is not available, another course in English from this list may be substituted upon approval of a college advisor.

SOCIAL SCIENCES (Minimum Credits Required) 9

The following Social Sciences courses have been designated to fulfill general education requirements. One course may be chosen from Group A. Other courses must be from Group B.

Group A
SSI 2110 — Culture and Socializing Institutions
AMS 2030 — Intro to American Studies
ANT 2410 — Cultural Anthropology
ANT 2402 — Anthropology and Modern Life
SOC 2000 — Principles of Sociology

Group B
SSI 2120 — Emergence of Economic and Political Institutions
SSI 2121 — Economic and Political Institutions from Minority Perspectives
SSI 2122 — Economic and Political Institutions of Urban America
SSI 2221 — America's Role in World Affairs
SSI 2201 — American Institutions in World Perspective
AMH 2010 — US to 1877
AMH 2020 — US since 1877
EUH 2000 — Western Civilization through middle ages
EUH 2001 — Western Civilization Renaissance to 18th Century
EUH 2002 — Western Civilization 18th Century to present
ANT 3302 — Sex Roles: a cross-cultural perspective
ANT 4403 — Environment and Cultural Behavior
ANT 4433 — Culture and Personality
POT 2001 — Introduction to Political theory
CPO 2002 — Comparative Politics
POS 2112 — American State and Local Government
INR 2002 — International Relations
POS 2041 — American Federal Government
ECO 2000 — Economic Concepts and Institutions
SOC 2020 — Social Problems
REL 3322 — Patterns of American Religion
HIS 4470 — History of Technology I
HIS 4471 — History of Technology II
HIS 4472 — History of Technology III
SSI 4601, 4602, 4603 — Masterpieces in Social Sciences

BEHAVIORAL STUDIES (Minimum Credits Required) 4

The following courses have been approved to satisfy general education requirements.
BES 2121 — Creative and Critical Thinking
BES 2351 — Power, Violence, and the Individual
REL 3021 — The Individual and the Religious Experience
MAF 2402 — Human Sexuality and Society
BES 2411 — Human Behavior, Cybernetics and Society
PCO 3714 — Personal Growth
MAF 2200 — Marriage and the Family
PSY 2013 — General Psychology

HUMANITIES (Minimum Credits Required) 12

The general education core curriculum in the Humanities provides the student with a coherent overview of the arts and ideas that make up the cultural tradition of Western Man. The student must satisfy the twelve hour requirement by taking one course from each of the three chronological categories — Ancient-Medieval, Renaissance-Romantic, and Modern. The courses approved for credit in each of the categories are listed below.

Category I. Ancient and Medieval
HUM 2210 — Western Humanities: Ancient to Medieval
ARH 2050 — Introduction to the History of Art
CLA 1100 — The Glory That Was Greece
CLA 1120 — The Grandeur That Was Rome
CLA 3791 — The Ancient City
CLT 2230 — The Ancient Novel
CLT 2370 — Myths of the Greeks and Romans
CLT 2371 — Religion of the Greeks and Romans
CLT 3340 — Greek and Roman Epic
REL 3494 — Images of Man in the Western Tradition: Historical
REL 3500 — History of Christianity
REL 3600 — Introduction to the Study of Judaism
HUM 2229 — Western Humanities—Honors
HUM 3431 — Classical Helenic Thought and Culture, their Origins and Development
HUM 3220 — Hellenistic/Judeo-Christian Tradition
LIT 2212 — World Literature
LIT 3311 — The Bible as Literature
HUM 3494 — Medieval Culture
HUM 2020 — Humanities Forum
REL 3202 — Survey of Biblical History and Religion
HUM 2510 — Introduction to the Fine Arts

Category II. Renaissance to Romantic
HUM 2230 — Western Humanities: Renaissance to 19th Century
HUM 2239 — Western Humanities—Honors
HUM 3495 — Renaissance Creativity and Origin of Modern Culture
LIT 2214 — World Literature
LIT 4930 — Fabulous Artificer — Man and Technology
IDS 2190 — The Ascent of Man

Category III. Modern and Area Studies
HUM 2250 — Western Humanities: Modern
HUM 2410 — Asian Humanities
HUM 2420 — African Humanities
EGN 4834 — Humanities and Engineering
HCA 4102 — Humanities and the Health Center
HCA 4410 — Humanities and Medicine
HUM 4563 — Humanities and Law
HUM 4162 — Humanities and Business Administration
REL 3321 — Religions of the West
RUT 2110 — The Russian Experience
HIS 2010, 2020 — History of Science
HIS 4470, 4471, 4472 — History of Technology
HUM 2259 — Western Humanities—Honors
HUM 3473 — Humanities of the Avant Garde
HUM 3251 — Humanities: Interpretations of the 20th Century
LIT 2223 — World Literature
LIT 3162 — Metaphysics of Modern Literature
PHI 2403 — Science, Myth and Values
PHI 2630 — Contemporary Moral Issues
IDS 3181 — Social Ethics
HUM 2515 — Museum Without Walls
HUM 3930 — Intellectuals and Power
MUL 2011 — Introduction to Music
THE 2000 — Theatre Appreciation

PHYSICAL SCIENCES (6-9 credits — See note below.)

The following physical science courses have specifically been designed as an interdisciplinary approach to the fulfillment of the general education requirement.

The following courses constitute recommended sequences with the courses listed in the sequential order in which they should be taken.
PSC 2501, ISC 2452, and PSC 2121
PSC 2501, PSC 2701, and ISC 2453
ISC 2400, ISC 2401, and ISC 2402

ISC 2400 — Fundamentals of Physical Sciences I
ISC 2401 — Fundamentals of Physical Sciences II
ISC 2402 — Fundamentals of Physical Sciences III
ISC 2452 — Man's Interaction with the Physical Environment
ISC 2453 — Energy and Society
ISC 3455 — Water and Society
PSC 2121 — Natural Regions
PSC 2191L — Laboratory in the Physical Sciences
PSC 2501 — Our Environment
PSC 2701 — The Scientific Basis of Technology
PSC 2707 — The Physical Sciences — College Honors
PSC 3402 — Space and Society
PSC 3900 — Men and Concepts

Students may wish to substitute other courses from the following list for the above interdisciplinary courses. No more than one course from each of the following three groups may be used to count towards the general education requirement in physical sciences.

Astronomy and Atmospheric Sciences
AST 1002 — Descriptive Astronomy
MET 1010 — Introduction to Weather and Climate
MET 1010L — Laboratory for Meteorology 1010

Chemistry
CHM 1020 — Chemistry and Society
CHM 1021 — Chemistry and Society

Geology/Geography
GEO 3200 — Physical Geography
GLY 1000 — Exploring the Geological Sciences
GLY 2015 — Physical Geology
GLY 2100 — Historical Geology
GLY 4155 — Geology of Florida
GLY 4930 — Hydrogeology and Human Affairs
OCE 4005 — Introductory Oceanography

Students majoring in one of the physical science areas will ordinarily fulfill their physical science requirement via the standard, professional chemistry or physics sequences.

BIOLOGICAL SCIENCES (6-9 credits — See note below.)

The following courses have been designated to fulfill general education requirements.

A. Recommended for natural science majors:

BSC 2010C — Organismic Biology
BSC 2011C — Molecules and Cells
BSC 2012C — Populations and Communities
(BOT 2021C — General Botany may be substituted for BSC 2012C)

B. Recommended for non-science majors:

APB 2150 — The Biological Sciences — Genetics and Evolution
APB 2151 — The Biological Sciences — Ecology and Behavior
APB 2152 — The Biological Sciences — Cell & Organism Biology
APB 2152L — The Biological Sciences — Biological Sciences Laboratory

C. Recommended substitutes for non-science majors:

GROUP I — Genetics & Evolution:
ANT 3511 — Physical Anthropology
PCB 3673 — Evolution Today

GROUP II — Ecology and Behavior
PCB 3043C — Introduction to Ecology

GROUP III — Cell and Organism Biology:
HUN 2201 — Fundamentals of Human Nutrition
APB 2170 — Microbiology

GROUP IV — Laboratory Biology:
APB 2152L — The Biological Sciences — Biological Science Laboratory

Note: The science requirements call for at least six credits in one science and nine in the other. Liberal Arts and Sciences majors must take nine credits in each science and may not use HUN 2201 in satisfying the biology requirement.

PLANS OF STUDY BY COLLEGE OF MAJOR

On the following pages, specific general education requirements are listed for each college and/or major. Students are expected to follow the program of general education specified for their particular baccalaureate goal. In other words the particulars of a student's general education depend upon his choice of majors and his choice of courses within the limits set by the major. Associate of Arts Certificates are awarded on this basis. Preprofessional courses for the student's first two years are also listed.

Suggested course sequences are not at all rigid. Each student should adjust his program to fit his ability and background. Academic advisers will help do this.

LIBERAL ARTS AND SCIENCES

The College of Liberal Arts and Sciences offers degrees with majors in twenty-nine different major fields, plus an interdisciplinary major. Students who expect to obtain a degree from the College of Liberal Arts and Sciences should complete the General Education Courses listed below and elective courses, with a C or better average. Students with a grade of D in any of these courses must complete a course in the same area with a grade of C or better before graduation.

Students must complete the General Education Requirements listed below. Note that the Basic Distribution Requirement must also be met prior to graduation. Many courses will serve in satisfying both requirements. Some will not.

General Education Requirements

	Credits
English	9
Mathematics	4

(Botany, chemistry, computer science, economics, mathematics, premedical, predental, physics, statistics, and zoology majors should not take MGF 1113, but follow a calculus sequence.

Behavioral Studies	4
Social Sciences	9
The Humanities	12
Physical Sciences	9

(Botany, chemistry, microbiology, physics, premedical, predental, and zoology majors should take courses in chemistry.)

Students majoring in Computer Sciences should take a physics or chemistry sequence for Physical Sciences.

Biological Sciences	9

(Botany, premedical, predental, and zoology majors should take courses in zoology and botany or Core Biology. All students must earn at least a grade of C in one course in biological science department: BSC, BOT, MCB, ZOO.)

PEM 1100 Physical Education	2

Preprofessional Requirements

A great amount of flexibility is available to the liberal arts student. Certain general guidelines are:

1. Study the materials on admission, advisement, and requirements for degrees, and consult with the proposed major department as soon as you have chosen a major field.

2. Take courses in your major and take electives.

3. Begin a foreign language. *Prior to graduation* a student must show proficiency in a foreign language either by examiniation or by successful completion of the third course of the three course beginning sequence or a higher level course. **The foreign language requirement should be completed as early as possible, preferably in the freshman or sophomore years.**

4. Complete one course in science having a laboratory, *prior to graduation* (not necessarily prior to admission to the upper division). A student may satisfy this requirement while he is in the lower division by successfully completing a Liberal Arts and Sciences course in science which has a laboratory. A grade of at least C is required.

Teacher Preparation in Arts and Sciences

Students may earn their degrees in the College of Liberal Arts and Sciences and complete requirements for certification as high school teachers in one or more academic subjects by following one of the Arts and Sciences — Education Programs described in the College of Education section in this catalog.

Further information may be obtained in the College of Liberal Arts and Sciences advisement office, 358 Little Hall.

ACCOUNTING

Students planning to enter the School of Accounting should take, while classified UF, the following program of study. Students with questions concerning the Preprofessional Requirements may wish to contact an adviser in the School of Accounting.

General Education Requirements

	Credits
*ENC English	9
**MAC 3311 Analytic Geometry and Calculus 1	5
**PHI 2100 Logic	4
Social Sciences	9
The Humanities	12
***Physical Sciences	7-10
***Biological Sciences	6-9
Physical Education	2

Preprofessional Requirements

	Credits
****ACC 2001 Introduction to Accounting	5
****ACC 2103 Financial Accounting 1	4
ECO 3411 Economics and Business Statistics	4
ECO 2013-2023 Basic Economics	10
MAC 3312 Analytic Geometry and Calculus 2	5
STA 3023 Introduction to Statistics	4

Electives to make a total of 96 hours

*Since the School of Accounting requires upper division writing courses students are required to take ENC 1102 and ENC 1418.

**MAC 3311 and PHI 2100 are also considered preprofessional courses.

***Students are expected to complete 16 hours of the Sciences.

****The ACC 2001 and ACC 2103 sequence is required for Accounting Majors. A grade of "C" or better is required in these courses to register for accounting major courses.

Suggested Course Sequence

FRESHMAN YEAR

	Credits
ENC 1102 Expository Writing	3
Social Science	3
Physical Science	3
Humanities	4
Physical Education	2
ENC 1418	3
Social Science	3
Physical Science	3
Elective (MAC 1132 if needed, Algebra and Trigonometry)	5
English Elective	3
Social Science	3
Physical Science	3
Humanities	4
Biological Sciences	3

SOPHOMORE YEAR

MAC 3311 Analytic Geometry and Calculus I	5
ECO 2013 Basic Economics	5
Humanities	4
Biological Sciences	3
ACC 2001 Elementary Financial Accounting	5
MAC 3312 Analytic Geometry and Calculus II	5
STA 3023 Intro. to Statistics	4
Elective	2
ACC 2103 Financial Accounting I	4
ECO 3411 Economical and Business Statistics	4
ECO 2023 Basic Economics	5
PHI 2100 Logic	4

AGRICULTURE

Students planning to enter the College of Agriculture should take, while in lower division, the following program of study. The sequence in which courses are to be taken will depend upon the department in which a student takes his upper division major and will be determined by counselors in the College of Agriculture.

General Education Requirements

	Credits
English	9
MAC 1132 Algebra and Trigonometry	5
Behavioral Studies	4
Social Sciences	9
The Humanities	12
CHM 2040 Introductory General Chemistry	4
PHY 2002C Applied Physics	5
BSC 2010C Organismic Biology	4
PEM 1100 Physical Education	2

Preprofessional Requirements

CHM 2041C and 2042C General Chemistry and Qualitative Analysis	8
AEB 3103 Principles of Food Resource Economics	5
Electives	17-19

A. Prospective majors in Animal Science, Dairy Science, Food Science, Poultry Science, Pre-Veterinary Medicine, and Microbiology and Cell Science should take courses listed above plus BSC 2011C, 2012C and CHM 2043C. Microbiology majors should substitute BOT 2011C for BSC 2011C.

B. Prospective majors in Dairy and Poultry Management may satisfy the Chemistry requirements by completing CHM 2040 and CHM 2041C.

C. Prospective majors in Agronomy, Fruit Crops, Ornamental Horticulture, Plant Pathology, Soil Science, and Vegetable Crops should take the courses listed above plus BSC 2011C and BOT 2011C.

D. Entomology majors should take BSC 2011C and BSC 2012C in addition to the above to complete biology requirements.

E. Prospective majors in Food and Resource Economics should take the courses listed above but may substitute MAC 3311 or MAC 3312 for PHY 2002C and may fulfill Chemistry requirements by completing CHM 2040 and 2041C or CHM 1020 and CHM 1021.

F. Prospective majors in Agricultural Education, Mechanized Agriculture, Food and Resource Economics may satisfy remaining Biology requirements by completing APB 2150, APB 2150L, APB 2151, APB 2152.

G. Prospective majors in Microbiology and Cell Science must satisfy Mathematics and Physics requirements by completing MAC 3311, 3312 and PHY 2050, 2051, 2052, with laboratories.

Suitable electives in Agriculture: AEB 3133 or 3300, MAG 3220 and 3312, ANS 3007, ASG 3003, ENY 3005, FOR 2003, FOS 2001 and 2002, PLP 3002, SOS 3022, PLS 2031, ORH 3513C, FRC 3212 and other according to prerequisites completed.

Suggested Course Sequence

FRESHMAN YEAR

English	3
Social Sciences	3
MAC 1132 Algebra and Trigonometry	5
Behavioral Studies	4
PEM 1100 Physical Education	2
English	3
Social Sciences	3
CHM 2040 General Chemistry	4
Elective	0-2
English	3
Social Sciences	3
CHM 2041C General Chemistry	4
BSC 2010C Organismic Biology	4

SOPHOMORE YEAR

Humanities	4
CHM 2042C Chemistry	4
BSC 2011C Molecules and Cells	4
Elective	2-4
Humanities	4
CHM 2043C Chemistry	4
AEB 3103 Food Resource Economics	5
Electives	2-4
Humanities	4
PHY 2002C Physics	5
Electives of Upper Division Courses	7-8

ARCHITECTURE

Students planning to enter the College of Architecture should take, while classified UF, one of the following programs of study. They should consult the departmental major adviser for specific information regarding grade point averages, minimum grades required in certain courses and other information relating to the Curriculum. Advisers are listed in the catalog under the section titled, "College of Architecture."

To be eligible for admission to the College of Architecture, the student is required to have at least a 2.0 (c) average in the courses listed in the appropriate curriculum for the first two years. In addition the student must earn a 2.0 (c) average in all preprofessional work included in the first two years of the program. Please refer to additional information in the section of this catalog titled "College of Architecture," under the heading "Requirements for Admission".

For upper division programs see the College of Architecture section of the catalog.

A. FOR THE DEGREE, BACHELOR OF DESIGN (ARCHITECTURE)

General Education Requirements

	Credits
English	9
Behavioral Studies	8
Social Sciences	9
The Humanities	12
Physical Sciences	4
PHY 2002, 2003 Applied Physics	10
Biological Sciences	6
PEM 1100 (PL 101) Physical Education	2
MAC 2223 Analytical Geometry and Calculus	5

Preprofessional Requirements

ARC 1211 Building Arts	3
ARC 1115C Basic Drawing	4
ARC 1126C Architectural Drawing	4
ARC 1131C Architectural Communications	4
ARC 2311C Architectural Design 1	4
ARC 2313C Architectural Design 2	4
ARC 2461 Mat. & Meth. of Constr. 1	4
ARC 2580 Architectural Structures 1	4

Suggested Course Sequence

FRESHMAN YEAR

MAC 2223 Analytic Geom/Calc	5
Physical Sciences	4
ARC 1115C Basic Drawing	4
ARC 1211 Building Arts	3
Behavioral Studies	4
PHY 2002C Applied Physics I	5
English	3
ARC 1126C Arch. Drawing	4
PHY 2003C Applied Physics II	5
English	3
ARC 1131C Arch. Communications	4
Humanities	4

SOPHOMORE YEAR

Humanities	4
English	3
Social Sciences	3
ARC 2311C Arch. Design I	4
Biological Sciences	3
Humanities	4
Social Sciences	3
ARC 2313C Arch. Design II	4
Biological Sciences	3
Physical Education	1
ARC 2580 Arch. Structures I	4
Social Sciences	3
Behavioral Studies	4
ARC 2461 Materials & Methods of Construction I	4
Physical Education	1

B. FOR THE DEGREE, BACHELOR OF DESIGN (INTERIOR DESIGN)

General Education Requirements

	Credits
English	9
MAC 1132 Algebra and Trigonometry	5
Social Sciences	9
Behavioral Studies	6
The Humanities	12
Physical Sciences	10
Biological Sciences	6
PEM 1100 Physical Education	2

Preprofessional Requirements

ARC 1211 Building Arts	3
ARC 1115C Basic Drawing	4
ARC 1126C Architectural Drawing 1	4
ARC 1131C Architectural Communications	4
ARC 2311C Architectural Design 1	4
ARC 2313C Architectural Design 2	4
ACC 2001 Elementary Accounting	5
Electives	9

COLLEGE OF LIBERAL ARTS AND SCIENCES

Suggested Course Sequence

FRESHMAN YEAR

	Credits
ARC 1211 Building Arts	3
Social Sciences	3
Physical Sciences	4
English	3
Physical Education	2
ARC 1115C Basic Drawing	4
Social Sciences	3
Physical Sciences	3
English	3
Behavioral Studies	3
ARC 1126C Architectural Drawing	4
Social Sciences	3
Physical Sciences	3
English	3
Behavioral Studies	3

SOPHOMORE YEAR

HUM Humanities	4
MAC 1132 Algebra and Trigonometry	5
ARC 1131C Architectural Communications	4
ELECT Elective	4
Humanities	4
Biological Sciences	3
ACC 2001 Accounting	5
ARC 2311C Architectural Design 1	5
Humanities	4
Biological Sciences	3
ARC 2313C Architectural Design	4
Elective	4

C. FOR THE DEGREE, BACHELOR OF LANDSCAPE ARCHITECTURE

General Education Requirements

English	9
American Institutions	6
SOC 2000 Principles of Sociology	4
Humanities	12
PSC 2501 or PSC 2121	4
ISC 2452 or ISC 2453 or ISC 3455	3-4
BSC 2010 Organismic Biology	4
PCB 3043 Introduction to Ecology	5
PEM 1100 Physical Education	2

Preprofessional Requirements

MAC 2223 Anal. Geom./Calc.	5
COP 3110 Intro. Computer Programming	2
GLY 2015 or PHY 2002	4-5
ARC 1211 Building Arts	3
ARC 1115 Basic Drawing	4
ARC 1126 Arch. Drawing 1	4
ARC 1131 Arch.Communications	4
ARC 2311 Arch. Design 1	4
ARC 2313 Arch. Design 2	4
ARC 2461 Materials and Methods of Construction	4
ARC 2580 Arch. Structures I	4
LAA 2710 Landscape Architecture 1	4
LAA 2711 Landscape Architecture 2	4

96 hours (minimum) of general education and preprofessional courses must be completed prior to entry to the professional program. All entering students must consult with the Program Adviser for course scheduling and sequencing.

D. FOR THE DEGREE IN BUILDING CONSTRUCTION

General Education Requirements

	Credits
English	9
MAC 1132 Algebra and Trigonometry	5
Social Sciences	6
Humanities	12
PHY 2002, 2003 Applied Physics	10
Biological Sciences	6
PEM 1100 Physical Education	2
ECO 2013 Basic Economics 1	5

Preprofessional Requirements

BCN 1210 Construction Materials	4
MAC 2223 Analytical Geometry and Calculus	5
GLY 2026 Engineering Geology	4
ARC 1126 Architectural Drawing	4
BES 2411 Cybernetics and Society	4
ACC 2001 Elementary Financial Accounting	5
ENC 3351 Business Communications	4
BCN 2400 Construction Mechanics 1	5
Elective	3

BUSINESS ADMINISTRATION

The College of Business Administration offers degrees in seven major fields which are listed in the Business Administration section of the catalog. Students who expect to receive a degree in one of the business majors must complete: (1) the General Education courses and the Preprofessional requirements listed below and elective courses for a total of at least 96 hours; and (2) satisfactorily complete the upper division requirements.

Students who plan to major in Accounting please see the section headed School of Accounting.

General Education Requirements

(For all majors in Business Administration)

	Credits
English	9
*MAC 3311 Analytic Geometry and Calculus 1	5
*PHI 2100 Logic	4
Social Sciences	9
Humanities	12
**Physical Sciences	7-10
**Biological Sciences	6-9
PEM 1100 Physical Education	2

Preprofessional Requirements

a. For Finance, Economics, Insurance, Management, Marketing and Real Estate and Urban Analysis majors:

	Credits
ACC 2001 Elementary Financial Accounting	5
ACC 2301 Elementary Managerial Accounting	3
ECO 2013, 2023 Basic Economics	10
MAC 3312 Analytic Geometry and Calculus II	5
STA 3023 Introduction to Statistics	4
ECO 3411 Economic and Business Statistics	4
Electives to make a total of 96 hours	

b. For Computer Information Sciences majors:

	Credits
ACC 2001, 2301 Elementary Accounting	8
ECO 2013, 2023 Basic Economics	10
COC 3110 Introduction to Computing	4
COP 3530 Data Structures	4
MAC 3312 Analytical Geometry and Calculus 2	5
MAS 3113 Matrices and Vector Spaces or MAS 3314 Linear Algebra	4
STA 3023 Mathematical Statistics	4
STA 4033 Mathematical Statistics with Computer Applications	3
Electives to make a total of 96 hours	

*MAC 3311 and PHI 2100 are also considered preprofessional courses.

**Students are expected to complete 16 hours of the Sciences. Choose elective courses needed to complete the total 96 quarter hours in the university transfer program from such areas as mathematics, natural sciences, social science, foreign language, and humanities.

Suggested Course Sequence

FRESHMAN YEAR

English	3
Social Science	3
Physical Science	3
MAC 3311 (or MS 102 if needed)	5
PEM 1100 Physical Education	2
English	3
Social Science	3
Physical Science	3
MAC 3312	5
English	3
Social Science	3
Physical Science	3
STA 3023	4

SOPHOMORE YEAR

Humanities	4
ECO 2013	5
ECO 3411	4
Biological Science	3
Humanities	4
ECO 2023	5
ACC 2001	5
Biological Science	3
Humanities	4
PHI 2100	4
ACC 2301, 2401	3
Elective	5

EDUCATION

ELEMENTARY OR EARLY CHILDHOOD EDUCATION

General Education Requirements

	Credits
Social Sciences	9
Physical Sciences	10
English	9
Behavioral Studies	6
MAE 3810, 3811 Mathematics	6
The Humanities	12
Biological Sciences	9
PEM 1100 Physical Education	2

One quarter of Biological Science or of Physical Science may either be omitted or taken as an elective. Students may not use AGG 2501, ANT 3S11, ECH 3783, FOR 2010, FOS 2001, HUN 2201, SOS 321S to meet the biological science requirement. Acceptable courses to meet the English requirement are limited to ENC 1102, ENC 1418, ENG 1200, ENG 1400, ENG 1710, ENC 1256, CRW 2321, CRW 2221, LIT 2160, LIT 2930, ENG 2120, ENG 2932, ENC 3464, ENC 3343, ENC 3351, ENG 3500, ENG 35S1, CRW 3330, CRW 3230, ENC 3532, ENG 4511, ENC 4356.

Preprofessional Requirements

1. At least 96 credits are required for admission to upper division. The College of Education will accept those students who present the best records and show the most promise of success in a teacher education program. See the College of Education section of the catalog for further information relating to admission to upper division.

2. The following courses may be taken in the Sophomore year or delayed until the Junior year:
   a. MUE 2402 (Students must have a 2.0 average and have completed 64 hours)
   b. ENG 4161

3. Speech requirements may be completed in the Sophomore year or delayed until the Junior year. This requirement is met by successful completion of SPC 2300 or 3601 or by successfully passing the speech screening test administered by the Speech Department.

Suggested Course Sequence

FRESHMAN YEAR

	Credits
Social Sciences	9
*Physical Sciences	7-10
**English	9
Behavioral Studies	6
PEM 1100 Physical Education	2
Electives	12
	46-49

SOPHOMORE YEAR

	Credits
The Humanities	12
*Biological Sciences	6-9
MAE 3810, 3811	6
Electives	22
	46-49

*One quarter of Biological Sciences or Physical Sciences may either be omitted or taken as an elective.
**See statement under General Education Requirements for acceptable English courses.

SECONDARY EDUCATION OR K-12 PROGRAMS

Secondary Education students wishing certification for teaching in grades 7-12 may work toward degrees in either the College of Education or the College of Arts and Sciences.

Certain other programs prepare students for careers at all levels of teaching from kindergarten through grade 12 (K-12). These special programs are:

Art (through either the College of Education or the College of Architecture and Fine Arts)

Health Education (through the College of Physical Education, Health, and Recreation)

Music (through the College of Fine Arts)

Physical Education (through the College of Physical Education)

Special Education — Mental Retardation (through the College of Education)

Speech Pathology and Audiology (through either the College of Education or the College of Arts and Sciences)

All secondary and K-12 programs are specified in the College of Education section of the catalog.

All Lower Division students working toward degrees in Secondary Education or K-12 programs with the exception of science education and music education will pursue the following program:

General Education Requirements

	Credits
Social Sciences	9
Physical Sciences	10
English	9
Behavioral Studies	6
Fundamental Mathematics	4
The Humanities	12
Biological Sciences	9
PEM 1100 Physical Education	2

One quarter of Biological Science or of Physical Science may either be omitted or taken as an elective. Students may not use AGG 2501, ANT 3S11, ECH 3783, FOR 2010, FOS 2001,

HUN 2201, SOS 3215 to meet the biological science requirement. Acceptable courses to meet the English requirement are limited to ENC 1102, ENC 1418, ENG 1200, ENG 1400, ENG 1710, ENC 1256, CRW 2321, CRW 2221, LIT 2160, LIT 2930, ENG 2120, ENG 2932, ENC 3464, ENC 3343, ENC 3351, ENG 3500, ENG 3551, CRW 3330, CRW 3230, ENC 3532, ENG 4511, ENC 4356.

Science education majors should take CHM instead of PSC and ZOO and BOT instead of APB. They should also take MAC courses instead of MGF.

Because of the nature of their program, music education majors will take their general education requirements over a four year period rather than only during the first two years.

Preprofessional Requirements

A. Teaching field requirements

These teaching fields are listed in the College of Education section of the Catalog together with course requirements for each field. Some of these courses can and should be taken while in the lower division.

B. Other requirements

1. At least 96 credits are required for admission to upper division. The College of Education will accept those students who present the best records and show the most promise of success in a teacher education program. See the College of Education section of the catalog for further information relating to admission to upper division.

C. Other considerations

1. Speech requirement may be completed in the Sophomore year or delayed until the Junior year. This requirement is met by successful completion of SPC 2300 or 3601 or by successfully passing the speech screening test administered by the Speech Department. English and Language Arts majors may meet this requirement only by successful completion of SPC 2300 or 3601.

2. Psychological Foundations Course. (Students must have completed 80 credits)

a. EDF 3135 or EDF 4210 for Secondary Education

b. EDF 3110 for Special Teaching Fields (K-12 Programs)

3. Students who choose to work toward a teacher education degree in a college other than the College of Education should consult that college's portion of the catalog for admission and graduation requirements.

Suggested Course Sequence

FRESHMAN YEAR

	Credits
Social Sciences	9
*Physical Sciences	7-10
**English	9
Behavioral Studies	6
PEM 1100 Physical Education	2
Electives	12
	46-49

SOPHOMORE YEAR

	Credits
The Humanities	12
*Biological Sciences	6-9
Mathematics	4
Electives	24
	46-49

*One quarter of Biological Sciences or Physical Sciences may either be omitted or taken as an elective.

**See statement under General Education Requirements for acceptable English courses.

ENGINEERING

Essential Preparation: Modern engineering education demands much in the way of specific high school preparation not required in other college programs. The beginning engineering student should have a good understanding of the basic physical sciences, a highly developed ability in mathematics, and the competence to read rapidly and with comprehension. The College of Engineering considers that a minimum adequate preparation would be substantially as follows:

The high school program should include the following subjects:

Essentials	Year
Elementary algebra	1
Intermediate and advanced algebra	1
Plane geometry	1
Trigonometry	½
Chemistry	1
Physics	1
Desirable	
Additional Mathematics	½

Deficiencies in the above subjects may be overcome by registering in certain foundation courses before proceeding with parts of the regular engineering program.

A student may request transfer to the College of Engineering at any time after completing 45 credits.

FRESHMAN AND SOPHOMORE REQUIREMENTS

The following program is designed for those students whose high school preparation meets the above criteria. All Freshmen should consult with a College of Engineering adviser in planning their academic programs.

High school records and test scores are reviewed and a program of study commensurate with the student's academic capabilities is assigned. This workload may range from a minimum of 12 to as much as 20 credit hours per quarter. A student of above average academic capabilities and high motivation should be able to carry 15-16 credits each quarter and should thus be able to earn a bachelor's degree in 13 quarters. However, most students take 14 to 15 quarters to complete their program.

General Education Requirements

	Credits
English	9
Social Sciences	9
*The Humanities	12
**MAC 3311, 3312 Analytic Geometry and Calculus	10
PHY 2040, 2041, 2042 General Physics with Calculus	9
PHY 2040L, 2041L, 2042L Physics Laboratory	3
PEM 1100 Physical Fitness	2

Preprofessional Requirements

	Credits
***CHM 2045C, 2046C General Chemistry and Qualitative Analysis	8
***CHM 2047C or Biological Science Elective	4
MAC 3313, 3314 Analytic Geometry and Calculus	10
EGM 3311 Introduction to Engineering Analysis or MAP 3302 Elementary Differential Equations	3
***COP 3212 Computer Programming for Engineers	3
Electives and Departmental Requirements	14

Suggested Course Sequence

FRESHMAN YEAR

	Credits
English	9
Social Sciences	9
**MAC 3311, 3312, 3313	15
***Chemistry	12
PEM 1100	2

SOPHOMORE YEAR

	Credits
*Humanities	12
MAC 3314	5
PHY 2040, 2041, 2042	9
PHY 2040L, 2041L, 2042L	3
Other Courses (see engineering adviser)	

*Humanities may be delayed till Junior year.
**Students who are weak in algebra or trigonometry should take MAC 1132 before attempting MAC 3311.
***Only well-prepared students qualify for admission to the CHM 2045C sequence. Other students take the CHM 2040 sequence. See the chemistry course descriptions in the back of the catalog for minimum criteria for admission to CHM courses. Students weak in mathematics may need MAC 1132 prior to CHM 2040. Students of Aerospace, Chemical and Environmental engineering are required to take CHM 2047C.
****Students entering Chemical Engineering take CAP 3210. COP 3212 is not required in the CIS program.

Detailed information about departmental requirements is found in the section on Engineering in this catalog.

A pre-engineering program, taken in one of the Florida Community/Junior Colleges, consists of courses of two semesters, or equivalent, in the following areas: English, social studies, general chemistry and qualitative analysis, and physics (taught with the use of calculus); mathematics at least through integral calculus; and other required or elective courses. Eight semester (12 quarter) credits of Humanities are required. This program totals at least 64 semester hours (96 quarter hours). Satisfactory completion of this program leads to eligibility to apply for admission to the College of Engineering. Community/Junior college counselors are referred to the University of Florida Junior College Counseling Manual sections on General Information and Engineering for additional information.

FINE ARTS

Students planning to enter the College of Fine Arts should take, while classified UF, one of the following programs of study. They should consult the departmental major adviser for specific information regarding grade point averages, minimum grades required in certain courses and other information relating to the curriculum. Advisers are listed in the catalog under the section titled "College of Fine Arts."

To be eligible for admission to the College of Fine Arts, the student is required to have at least a 2.0 (C) average in the courses listed in the appropriate curriculum for the first two years. In addition the student must earn a 2.0 (C) average in all preprofessional work included in the first two years of the program. Please refer to additional information in the section of this catalog titled "College of Fine Arts," under the heading "Requirements for Admission". Students who have declared a major offered in the College of Fine Arts may apply for admission after one quarter at the University. In addition to other criteria, all students are admitted on a space available basis.

For upper division programs, see the College of Fine Arts section of the catalog.

A. FOR THE DEGREES IN ART (GRAPHIC DESIGN, ART EDUCATION, CRAFTS, FINE ARTS, HISTORY OF ART)

General Education Requirements

	Credits
English	9
Fundamental Mathematics	4
Behavioral Studies	6
Social Sciences	9
The Humanities	12
Physical Sciences	7
Biological Sciences	9
PEM 1100 Physical Education	2

Preprofessional Requirements

	Credits
ART 1201C, 1203C Beginning Design 1 and 2	6
ART 1300C, 1301C Beginning Drawing 1 and 2	6
ART 2205C Intermediate Design	3
ART Elective	4
ARH 2050, 2051, 2052 Intro. to History of ART 1, 2, and 3	9
Electives	10

NOTE: Students intending to major in art education are urged to become familiar with the requirements as listed under the College of Education dealing with admission to the advanced Professional Sequence.

Suggested Course Sequence

FRESHMAN YEAR

	Credits
English	3
Social Sciences	3
Behavioral Studies	3
ART 1201C Beginning Design 1	3
ART 1300C Beginning Drawing 1	3
English	3
Social Sciences	3
Behavioral Studies	3
ART 1203C Beginning Design 2	3
ART 1301C Beginning Drawing 2	3
English	3
Social Sciences	3
Fund. Mathematics	4
Elective	4
PEM 1100 Physical Education	2

SOPHOMORE YEAR

	Credits
Humanities	4
Biological Science	3
Physical Science	4
ART 2205C Intermediate Design	3
ARH 2050 Introd. to History of Art 1	3
Humanities	4
Biological Science	3
Physical Science	3
ART Elective	4
ARH 2051 Introd. History of Art 2	3
Humanities	4
Biological Science	3
ARH 2052 Introd. History of Art 3	3
Electives	6

B. FOR ALL MUSIC MAJORS PROGRAMS IN THE COLLEGE OF FINE ARTS: BACHELOR OF MUSIC AND BACHELOR OF MUSIC EDUCATION DEGREES.

NOTE: Music majors must be admitted to the music major program by the Department of Music. Prospective majors should see the Department of Music Chairman as early as possible in their college careers.

General Education Requirements

	Credits
Social Sciences	9
English	9
Behavioral Studies	4-6
The Humanities	12

Bachelor of Music:

Of the 8 courses: MGF 1113, PSC 2S01, PSC 2701, PSC 2121, APB 2150, APB 2151, APB 2152, PHY 2063, the student must elect 3 courses, normally in the Junior Year. The student may elect these courses in the Sophomore year, and take HUM 2210, HUM 2230, HUM 2250 in the Junior year.

Bachelor of Music Education:

Of the 7 courses: PSC 2501, PSC 2701, APB 2150, APB 21S1, APB 2152, PHS 48S0, the student must earn a minimum of 15 credits which include credits in both physical and biological sciences. A minimum of one course in Mathematics is required, and may be taken in either the Junior or Senior year. MUL 2011 does not satisfy Humanities requirements.

COLLEGE OF LIBERAL ARTS AND SCIENCES

ORI 2001 Oral Performance of Literature 4
PEM 1100 Physical Education 2

Preprofessional Requirements

FRESHMAN YEAR

Music Performance Area
Applied Music: Principal
Instrument or Voice 9
Ensemble: Band, Chorus or Orchestra 3
MUE 2431 Voice Skills 2
(Voice Majors and Voice Principals take MUS 4201 Lang. and Diction)
*MVK 1011 Preparatory Piano Skills (A), (B) 4
Music Theory Sequence
MUT 1111, 1112, 1113, 1241, 1242, 1243 12
*Credit not applicable toward the degree

SOPHOMORE YEAR

Music Performance Area
Applied Music: Principal
Instrument or Voice 9
Ensemble: Band, Chorus or Orchestra 3
MVK 2111, 2111, 2111 (A), (B), (C) Piano Skills 6
Music Theory Sequence
MUT 2116, 2117, 2118, 2246, 2247, 2248 12
*MUC 2101, 2102, 2103 Composition Skills 3
**Electives 2

*Required for Theory/Composition Majors
**Not required for Theory/Composition Majors

NOTE: The Bachelor of Arts degree in music is offered through the College of Liberal Arts and Sciences with the cooperation of the Department of Music. See the College of Liberal Arts and Sciences section of the catalog for that degree.

Suggested Course Sequence

FRESHMAN YEAR

Fall Quarter (1)	Credits
MUT 1111 Theory of Music (1)	3
MUT 1241 Theory of Music Lab (1)	1
MUE 2431 Voice Skills	2
(Voice majors and voice principals take MUS 4201 Language and Diction for singers.)	
Applied Music Principal	3
Band, Orchestra or Chorus	1
English	3
Social Sciences	3
PEM 1100 Physical Education	2

Winter Quarter (2)	Credits
MUT 1112 Theory of Music (2)	3
MUT 1242 Theory of Music Lab (2)	1
*MVK 1011 Preparatory Piano Skills (A)	2
Applied Music Principal	3
Band, Orchestra or Chorus	1
English	3
Social Sciences	3

Spring Quarter (3)	Credits
MUT 1113 Theory of Music (3)	3
MUT 1243 Theory of Music Lab (3)	1
*MVK 1011 Preparatory Piano Skills (B)	2
Applied Music Principal	3
Band, Orchestra or Chorus	1
English	3
Social Sciences	3

*Credit not applicable toward the degree

SOPHOMORE YEAR

Fall Quarter (4)	Credits
MUT 2116 Theory of Music (4)	3
MUT 2246 Theory of Music Lab (4)	1
MVK 2111 Piano Skills (A)	2
*MUC 2101 Composition Skills	1
Applied Music Principal	3
Band, Orchestra or Chorus	1
Humanities	4
Behavioral Studies	3

Winter Quarter (5)	Credits
MUT 2117 Theory of Music (5)	3
MUT 2247 Theory of Music Lab (5)	1
MVK 2111 Piano Skills (B)	2
*MUC 2102 Composition Skills	1
Applied Music Principal	3
Band, Orchestra or Chorus	1
Humanities	4
Behavioral Studies	3

Spring Quarter (6)	Credits
MUT 2118 Theory of Music (6)	3
MUT 2248 Theory of Music Lab (6)	1
MVK 2111 Piano Skills (C)	2
*MUC 2103 Composition Skills	1
Applied Music Principal	3
Band, Orchestra or Chorus	1
Humanities	4
Elective	2

*Required for Theory/Composition Majors

Acceptable courses are: ENC 1102, ENC 1418, ENG 1200, ENG 1400, ENG 1710, ENC 1256, CRW 2321, CRW 2221, LIT 2160, LIT 2930, ENG 2120, ENG 2932, ENC 3464, ENC 3343, ENC 3351, ENG 3500, ENG 3551, CRW 3330, CRW 3230, ENC 3532, ENG 4511, ENC 4356.

C. FOR THE DEGREE IN THEATRE

General Education Requirements

	Credits
English	9
Fundamental Mathematics	4
Behavioral Studies	6
Social Sciences	9
The Humanities	12
Physical Sciences	7
Biological Sciences	9
PEM 1100 Physical Education	2

Preprofessional Requirements

	Credits
THE 2000 Theatre Appreciation	4
ORI 2001 Oral Interpretation 1	4
TPP 2700 Voice and Articulation	4
TPP 3510 Musical Theatre & Movement I	4
TPP 3110 Acting 1	4
TPA 3250 Stage Makeup	3
Electives	14

Suggested Course Sequence

FRESHMAN YEAR

	Credits
Social Sciences	3
English	3
Physical Science	4
THE 2000 Theatre Appreciation	4
Physical Education (Dance, Movement, Fencing, Gymnastics)	1
Social Sciences	3
Physical Science	3
English	3
ORI 2001 Oral Performance I	4
Physical Education (Dance, Movement, Fencing, Gymnastics)	1
Elective	4
Social Sciences	3
English	3
TPP 2700 Voice and Articulation	4
MGF 1113 Mathematics	4
Physical Education (Dance, Movement, Fencing, Gymnastics)	1

SOPHOMORE YEAR

	Credits
Humanities	4
Biological Sciences	3

TPP 3510 Musical Theatre & Movement I	4
TPP 3110 Acting I	4
Behavioral Studies	3
Humanities	4
Biological Sciences	3
TPA 3250 Stage Makeup	3
Elective	4
Behavioral Studies	3
Humanities	4
Biological Sciences	3
Elective	6

NOTE: A student may choose to omit one quarter from the three quarter sequence of either Physical Sciences or Biological Sciences.

FOREST RESOURCES AND CONSERVATION

Students desiring to prepare for professional careers in the many areas within forest resources and conservation management (including majors in Forestry, Wildlife Ecology and Resource Conservation) should select the appropriate preprofessional program listed below. In addition, they should contact the School of Forest Resources and Conservation if advisement is needed.

To be eligible for direct admission applicants must have completed courses as shown below, a total of at least 96 quarters hours and have a grade point average (GPA) of 2.3 or above.

PREPROFESSIONAL PROGRAM IN FOREST RESOURCES AND CONSERVATION

General Education Requirements

	Credits
English	9
*MAC 3311-3312 Analytic Geometry and Calculus 1, 2	10
Social Sciences	9
Humanities	12
Behavioral Studies	4
CHM 2040, 2041C or 2045C, 2046C General Chemistry	8
Biological Sciences Elect either:	
(a) BSC 2010C, 2011C, BOT 2011C (Forestry)	
or	
(b) BSC 2010C, 2011C, 2012C (Wildlife)	
or	
(c) BSC 2010C, 2011C, 2012C or BOT 2011C (Resource Conservation)	12-13
PEM 1100 Physical Education	2

Preprofessional Requirements

	Credits
**CHM 2042C, 2043C, or 2047C Chemistry and Qualitative Analysis	4-8
***ECO 2013, 2023 Basic Economics	10
Either PHY 2002C, 2003C, or PHY 2050, 2050L, 2051, 2051L Physics	10
STA 3023 Introduction to Statistics 1	4
Total	94-99

*Students with inadequate backgrounds in mathematics will have to complete MAC 1132 — Algebra and Trigonometry (5 credits) or equivalent.

**BCH 3023 Elementary Organic & Biological Chemistry may be substituted for CHM 2042C, 2043C, or 2047C. Students should note this is a terminal chemistry course.

***AEB 3103 Principles of Food and Resource Econ. (5 credits) may be substituted for ECO 2023.

HEALTH RELATED PROFESSIONS

Students classified UF planning to apply for Upper Division status in the College of Health Related Professions are urged to study the section of the catalog dealing with the College and its programs in Clinical and Community Dietetics, Medical Technology, Occupational Therapy, and Physical Therapy. Special attention should be given those paragraphs on admission policies.

Limitations in available staff, faculty and facilities make it necessary that the College reluctantly establish quotas for the admission of students.

Each department has its own application procedures. Preprofessional students should contact the department of their major objective as early as possible (Clinical and Community Dietetics, Room N1-8 in the Medical Sciences Building, Medical Technology, Room 4111 in Jennings Annex; Occupational Therapy, Room DG-83 in the Dental Science Building; and Physical Therapy, Room A-91 in the Shands Teaching Hospital). The sequence of professional courses in all programs begins only in the Fall quarter of the Junior year. The deadline for receipt of completed applications for September enrollment is the preceding March 15.

Students who plan to earn a baccalaureate degree in the College of Health Related Programs elect one of the following programs:

A. FOR THE DEGREE IN CLINICAL AND COMMUNITY DIETETICS

General Education Requirements

	Credits
English	9
MGF 1113 Fundamental Mathematics	4
Behavioral Studies	3
Social Sciences	9
Humanities	12
CHM 2040 General Chemistry	4
PEM 1100 Physical Education	2

Preprofessional Requirements

	Credits
BSC 2010, 2011, 2012 Biological Sciences Integrated Sequence	12
CHM 2041, 2042, 2043 General Chemistry	12
HUN 2201 Fundamentals of Nutrition	4
PSY 2013 General Psychology	4
HSC 1001 Introduction to Health Related Professions	2
CHM 3200 Organic Chemistry	4
CHM 3200L Organic Chemistry Laboratory	2
STA 3023 Introduction to Statistics	4
Electives	9

Suggested Course Sequence

FRESHMAN YEAR

	Credits
Social Sciences	3
English	3
CHM 2040 General Chemistry	4
BSC 2010 Biological Sciences	4
PEM 1100 Physical Education	2
Social Sciences	3
English	3
BSC 2011 Biological Sciences	4
CHM 2041 General Chemistry	4
Social Sciences	3
English	3
BSC 2012 Biological Sciences	4
CHM 2042 General Chemistry	4

SOPHOMORE YEAR

	Credits
Humanities	4
CHM 2043 General Chemistry	4
HSC 1001 Introduction to Health Related Professions	2
CHM 3200 Organic Chemistry	4
CHM 3200L Organic Chemistry Laboratory	2
STA 3023 Introduction to Statistics	4
Humanities	4
MGF 1113 Fundamental Mathematics	4

HUN 2201 Fundamentals of Nutrition 4
Behavioral Studies 3

Humanities 4
PSY 2013 General Psychology 4
Electives 9

B. FOR THE DEGREE IN MEDICAL TECHNOLOGY

General Education Requirements

	Credits
English	9
MAC 1132 Algebra and Trigonometry	5
Behavioral Studies	3
Social Sciences	9
The Humanities	12
CHM 2045C General Chemistry	4
STA 3023 Introduction to Statistics	4
BSC 2010C, 2011C, 2012C Biological Sciences Integrated Sequence	12
PEM 1100 Physical Education	2

Preprofessional Requirements

	Credits
CHM 2046C General Chemistry	4
CHM 2047C General Chemistry	4
CHM 3200, 3200L Organic Chemistry	6
CHM 3120C Quantitative Analysis	5
HSC 1001 Introduction to Health Related Professions	2
MLS 2030 Introduction to Medical Technology	2
Electives	13

Suggested Course Sequence

FRESHMAN YEAR

Fall Quarter	Credits
Social Sciences	3
English	3
CHM 2045C, 2040 General Chemistry	4
*MAC 1132 Algebra and Trigonometry	5

Winter Quarter	Credits
Social Sciences	3
English	3
CHM 2046C, 2041C General Chemistry	4
HSC 1001 Introduction to the Health Related Professions	2
Elective	3

Spring Quarter	Credits
Social Sciences	3
English	3
CHM 2047C, 2042C General Chemistry and Qualitative Analysis	4
MLS 2030 Introduction to Medical Technology	2
PEM 1100 Physical Education	2
Elective	3

Summer Quarter	Credits
**CHM 2043C General Chemistry and Qualitative Analysis	4

*Students who qualify should take an advanced mathematics course instead of MAC 1132. Consult University counselor.
**Students taking CHM 2040, 2041C, 2042C, 2043C series must take CHM 2043C in summer to be ready for CHM 3200, 3200L fall quarter.

SOPHOMORE YEAR

Fall Quarter	Credits
CHM 3200 Organic Chemistry	4
CHM 3200L Organic Chemistry Laboratory	2
The Humanities	4
BSC 2010C Biological Sciences — Integrated Sequence	4
Elective	3

Winter Quarter	Credits
CHM 3120C Quantitative Analysis	5
The Humanities	4
BSC 2011C Biological Sciences—Integrated Sequence	4
Behavioral Studies	4

Spring Quarter	Credits
The Humanities	4
STA 3023 Introduction to Statistics	4
BSC 2012C Biological Sciences—Integrated Sequence	4
Elective	3

C. FOR THE DEGREE IN OCCUPATIONAL THERAPY

General Education Requirements

	Credits
English	9
Fundamental Mathematics	4
Behavioral Studies	6
Social Sciences	9
The Humanities	12
Physical Sciences	7
APB 2150, 2151, 2152, 2152L Biological Sciences	13
PEM 1100 Physical Education	2

Preprofessional Requirements

	Credits
HSC 1001 Introduction to Health Related Professions	2
PSY 2013 General Psychology	4
PPE 3004 Psychology of Personality	4
OTH 2000 Introduction to Occupational Therapy	2
Electives	24

Suggested Course Sequence

FRESHMAN YEAR

Fall Quarter	Credits
SSI 2110 American Institutions	3
Physical Sciences: Men and Concepts	4
ENC 1102 Expository and Argumentative Writing	3
Creative and Critical Thinking	3
MGF 1113 Fundamental Mathematics	4

Winter Quarter	Credits
SSI 2120, 2122, or 2121 Economic and Political Institutions	3
Fundamentals of Physical Science	4
ENG 1200 Introduction to Fiction	3
Decisionmaking	3
HSC 1001 Introduction to Health Related Professions	2

Spring Quarter	Credits
SSI 2221 American Institutions	3
ENG 1400, 1710 Drama or Poetry	3
PEM 1100 Physical Education	2
Electives	8

Summer Quarter (Optional—to complete prerequisities before application deadline)

	Credits
HUM 2210 Western Humanities (or Music or Art)	4
ZOO 2010C Introductory Zoology Laboratory	4

SOPHOMORE YEAR

Fall Quarter	Credits
HUM 2210, 2230 Western Humanities	4
APB 2150 The Biological Sciences	3
PSY 2013 General Psychology	4
Electives	5

Winter Quarter	Credits
HUM 2230, 2250 Western Humanities	4
APB 2151 The Biological Sciences	3
OTH 2000 Introduction to Occupational Therapy	2
PPE 3004 Psychology of Personality	4
Electives	3

Spring Quarter	Credits
(Selected from Music or Art)	4
APB 2152 The Biological Sciences	3
APB 2152L Laboratory in Biological Sciences	1
Electives	8

Summer Quarter
Students accepted for the Occupational Therapy program may elect available courses in the Department of Occupational Therapy.

D. FOR THE DEGREE IN PHYSICAL THERAPY

General Education Requirements

	Credits
English	9
Behavioral Studies	6
Social Sciences	9
Humanities	12
Electives	7
PEM 1100 Physical Education	2

Preprofessional Requirements

	Credits
*CHM 2040C, Introductory General Chemistry	4
CHM 2041C, 2042C General Chemistry	8
*MAC 1132, Algebra and Trigonometry (or more advanced math)	5
*PHY 2002C-PHY 2003C Applied Physics	10
*BSC 2010C Organismic Biology	4
*BSC 2011C, Molecules and Cells	4
ZOO 3703C, Functional Vertebrate Anatomy	5
PSY 2013 General Psychology	4
PPE 3004, Psychology of Personality	4

*These courses will also meet general education requirements.

Suggested Course Sequence

FRESHMAN YEAR

	Credits
English	3
Social Science	3
CHM 2040C	4
HSC 1001 (or MAC 1132 or PSY 2013)	2
PEM 1100 Physical Education	3
English	3
Social Science	3
CHM 2041C	4
MAC 1132 (or see above)	5
English	3
Social Science	3
CHM 2042C	4
PSY 2013 (or see above)	4
Electives	4

SOPHOMORE YEAR

	Credits
Humanities	4
BSC 2010C	4
PHY 2002C	5
Behavioral Studies	3
Humanities	4
BSC 2011C or ZOO 3703C	5
PHY 2003C	5
Behavioral Studies	3
Humanities	4
BSC 2011C or ZOO 3703C	5
PPE 3004	4
Elective (or CLP 4144 Abnormal Psychology)	3

JOURNALISM AND COMMUNICATIONS

Listed below are general requirements for all students seeking a degree from the College of Journalism and Communications. It is expected that students will complete, in their first two years at the university, nearly all of the General Education Requirements and a considerable part of the Basic Distribution and Pre-Professional Requirements. The remainder will be completed as early as possible upon admission to the College of Journalism and Communications. A suggested course sequence is provided for the first two years. This can be altered to fit the student's circumstance but students are urged not to delay their foreign language or quantitative option.

A student must complete the General Education requirements and have a 2.5 average (C+) to be considered for admission to the College.

For course options other than those listed, consult "Authorized Courses for General Education."

General Education Requirements

	Minimum Credits
*English	9
ENC 1102 — Expository Writing	
ENC 1418 — Argumentative and Persuasive Writing	
(See list of English options)	
Mathematics	4
(See list of Mathematics options)	
Social Sciences	9
SSI 2110 — Culture and the Socializing Instututions	
SSI 2122 — The Economic and Political Institutions of Urban America	
SSI 2221 — America's Role in World Affairs (See list of Social Sciences options)	
Behavioral Studies	4
**BES 2351 — Power and Violence	
Humanities	12
(See list of Humanities options)	
***Physical Sciences	6-9
PSC 2501 — Our Environment	
ISC 2452—Man's Interactions with the Physical Environment	
PSC 2121—Natural Regions of the United States	
***Biological Sciences	6-9
(See list of Biological Sciences Options)	
Physical Sciences and Biological Sciences options may be used; however the above courses are strongly recommended.	
Total	53

**Students may substitute Behavioral Studies options with adviser approval.

***Three quarter hours in either of these areas may be omitted. A total of 15 hours of science must be completed.

Basic Distribution Requirements

*English	4
Social Sciences	
ECO 2000, 2013, 2023 or ECP 3302	4 or 5
AMH 2010, 2020	10
POS 2041, 2112	7
Additional Social Science Electives	6-15
Total	41 or 42

*Only grades of C or higher are acceptable. Two English composition courses must be included.

Preprofessional Requirements

These courses should be taken as soon as possible, preferably before admission to the College of Journalism and Communications. They are required for graduation.

1. MMC 2100. Writing for Mass Communications. Grade of C or higher must be earned; prerequisite for course is a typing proficiency of at least 20 words per minute; student may be exempted from and earn credit for course by passing a proficiency exam in writing at UF 4

2. SPC 3601, Public Speaking
Grade of C or higher must be earned; speaking performance courses that may be substituted. SPC 3420, SPC 3513
ORI 2001, ORI 2002, TPP 2700 4

3. One Foreign Language 15
or
Quantitative Option
Take any combination of the following courses; ACC 2001, 2301, 2401
STA 3013, 3023, STA 3024, 4222
COP 3110, 3111, 3120 10

For students who elect the foreign language option, the requirement may be met by satisfactory completion of a sequence of three (3) five hour courses including course work at the intermediate level (through 1112 or 1122). Students who plan to continue the study of a language which they began at another institution must take a placement test before registering. If proficiency through the 1112 or 1122 level is determined by examination, this will constitute completion of the foreign language requirement. However, no credit is earned. Consult the appropriate language departmental office for specific examination schedules. Transfer students having fewer than 15 hours of one foreign language may complete the requirement beginning at the point determined by a proficiency test. The student is advised to take the language proficiency examination as early as possible after admission lest a basic course have to be repeated with the result that the student loses credit for prior coursework. The language courses may be taken by the satisfactory-unsatisfactory grading option. Intensive summer study in French and Spanish is available for students who have earned no previous foreign language credit in college.

4. Professional courses — see appropriate sequence

Total Hours Required for Graduation 192

FRESHMAN YEAR

First Quarter

	Credits
ENC 1102 Expository Writing	3
SSI 2110 American Institutions: Culture and the Socializing Institutions	3
PSC 2501 Our Environment	4
Mathematics	4
PEM 1100 Physical Education	2
Total	16

Second Quarter

ENC 1418 Argumentative and Persuasive Writing	3
SSI 2122 American Institutions: The Economic and Political Institutions of Urban America	3
ISC 2452 Man's Interactions with the Environment	3
**BES 2531 Power and Violence	4
Journalism Elective	3
Total	16

Third Quarter

English	3
SSI 2221 American Institutions: America's Role in World Affairs	3
PSC 2121 Natural Regions of the United States (or see Biological Science Option)	3
SPC 3601 Public Speaking	4
American Government or Economics	4 or 5
Total	17 or 18
Yearly Total	**48-49**

SOPHOMORE YEAR

First Quarter

Humanities	4
Biological Sciences	3
Foreign Language or Quantitative Option	3-5
MMC 2100 Writing for Mass Communications	4
Total	14-16

Second Quarter

Humanities	4
Biological Sciences	3
Foreign Language or Quantitative Option	3-5
AMH 2010 U.S. History	5
Total	15-17

Third Quarter

Humanities	4
Foreign Language or Quantitative Option	4
AMH 2020 U.S. History	5
English	4
Total	17-18
Yearly Total	**48-51**

LAW

The College of Law offers a program leading to the degree of Juris Doctor. Admission is limited to those with a bachelor's degree from an accredited college or university who have satisfactory undergraduate records and have attained a satisfactory score on the Law School Admissions Test. Also offered is a one-year program leading to the degree of Master of Laws in Taxation. This program is open to those students who hold the J.D. degree and who show significant potential for success in the LL.M. program. For detailed information on admission requirements, course and programs, see the College of Law catalog.

PRELAW PROGRAMS

Admission to law school is a highly selective process. Applicants are selected primarily on the basis of quantitative factors which demonstrate the potential for success in law school, the legal profession, and in other law related careers. One of these factors is the Law School Admission Test (LSAT) which should be taken at the end of the junior or beginning of the senior year, and which has a separate writing ability test score. Another primary selection factor is the student's overall grade point average (GPA). Approximately 70 percent of those accepted to law school are chosen by reference to these two factors alone. About 20% of those accepted are chosen from a "hold" category. Applicants whose LSAT scores and GPA's do not put them in either the "accept" or "reject" categories are placed in the "hold" category, and have their records carefully examined in detail. Decisions to admit any applicant from the "hold" category are based on factors in addition to the factors mentioned above such as trends in academic effort and performance (ascending or descending), the types of courses and level of difficulty of academic loads, the college and discipline of the major, leadership and extracurricular activities, and maturing experiences such as employment or military service. Letters of evaluation from teachers or employers will usually be requested only from those applicants placed in the "hold" category.

The class entering law school in September 1979 averaged a 3.50 GPA, 650 on the LSAT, and 60 on the written ability test portion of the LSAT.

While any undergraduate specialization will prepare a student for law school, the beginning law student must possess the fundamental skills necessary for effective oral and written communication. The student who lacks writing skills should study advanced English composition. Any course that tests one's ability to organize a body of data and reason from it will be beneficial. Also useful will be courses in constitutional law, English and American history, economics, political processes, and sociology. A course in basic accounting principles is recommended.

Prelaw students should consult the current PreLaw Handbook prepared by the Law School Admissions Council and the Association of American Law Schools and available in most bookstores. A one credit course, IDS 1120, Introduction to the Legal Profession, is available under the S-U option.

Freshmen and transfer students planning careers in law should register with the Office of Preprofessional Education, 353 Little Hall during their first quarter on campus. In addition to serving as a central source of information on all matters relating to prelaw advisement, the Office of Preprofessional Education acts as a clearing-house for information, catalogues, and LSAT Bulletins relating to prelaw preparation and application procedures. The Office refers students to academic advisers, and serves as a central office for collecting and forwarding letters of evaluation for those applicants placed in the "hold" category. In addition the Office of Preprofessional Education coordinates the activities of the prelaw advisers located in the various departments and colleges listed below, and provides them with current data and information needed for effective advisement.

Advisers for prelaw students are available in the College of Business Administration, and in the Department of Economics, English, History, Philosophy, Political Science, and Sociology.

MEDICINE, DENTISTRY, AND OPTOMETRY

The University of Florida, rather than having a separate, organized premedical, predental or preoptometry degree program, allows a preprofessional student to major in a program offered by any department or college within the University. Dental, medical and optometry schools expect applicants to have received a liberal education and to have performed at a high level of academic accomplishment, including work in the required science core courses listed below. Selection for admission to these professional schools is usually based primarily on overall grade point average, (GPA), science GPA, admission test scores, letters of evaluation of the applicant'from faculty familiar with the applicant's qualifications in comparison with other preprofessional students, and interviews conducted by the professional schools' selection committees. Students from the University of Florida admitted to dental schools in 1979 averaged 3.3 in overall and science GPA, with scores of 5 or more in the academic and perceptual parts of the Dental Admissions Test (DAT). University of Florida graduates who were admitted to medical schools in 1979 averaged 3.55 in overall and science GPA, with an average score of 9.5 on each part of the New Medical College Admission Test (MCAT). The average GPA for students accepted into regional schools of optometry was 3.0 in 1979.

Freshman students planning careers in medicine, dentistry and optometry should register with the Office of Preprofessional Education, 353 Little Hall, during their first quarter at the University, and normally should apply for admission to the College of Liberal Arts and Sciences at the end of their first quarter of residence. Admission may occur at a later time, but the student may lose valuable curricula flexibility associated with the programs described below if the transfer is greatly delayed. Students transferring from other colleges and universities should also register with this office during the first quarter of residence. In order to inform themselves fully of requirements, procedures and other factors relating to preprofessional preparation, students should obtain a current copy of the PREPROFESSIONAL GUIDE prepared by and available through the Office of Preprofessional Education.

A one-credit course HSC 1005, Introduction to Medicine and Dentistry, is available under the S-U option.

In addition to serving as a central source of information on all matters pertaining to the preprofessional curricula, the Office of Preprofessional Education acts as a clearinghouse for information, catalogues and application forms relating to medical, dental and optometry school requirements and admission procedures. The office refers students to preprofessional academic advisers and serves as a central office for collecting and forwarding letters of evaluation and certification to the schools selected by the students. A description of services for preprofessional students provided by the Office of Preprofessional Education can be found in the PREPROFESSIONAL GUIDE.

The Office of Preprofessional Education coordinates the activities of the preprofessional advisers located in various departments and provides them with current data and procedures needed for effective advisement. Following initial contact with this office, the student will be referred to an adviser who will help plan a program and upper-division major best suited to the student's aims and abilities. The adviser should remain aware of the student's progress, and inform the Office of Preprofessional Education of academic difficulties and particularly of academic excellence. In the latter case, the adviser may recommend a student for the Junior Honors Medical Program described below and/or for a departmental honors program.

PREMEDICAL, PREDENTAL, PREOPTOMETRY CURRICULAR OPTIONS

The preprofessional student must satisfy the following core requirements (usually prior to application to the professional schools):

Required Core Courses:

1) A complete general chemistry sequence (terminating with CHM 2043C, CHM 2047C, CHM 2056C, or CHM 2052C.
2) A complete organic chemistry sequence terminating with CHM 3211L, and CHM 3211, or CHM 3216, or CHM 3219.)
3) At least 12 credits in biology (usually BSC 2010C, BSC 2011C, BSC 2012C.)
4) A complete physics sequence (terminating with PHY 2052 and PHY 2052L or PHY 2042 and PHY 2042L).
5) Analytic geometry and calculus (MAC 3311 and MAC 3312.)
6) One year of college level English

These courses will also meet the basic requirements for schools of Chiropractic, Osteopathic, and Podiatric medicine.

In Addition: Premedical students should also take the following courses which are required by either the University of South Florida Medical School or the University of Miami College of Medicine.

Statistics: STA 3023
Genetics: PCB 3063, PCB 3653C, or AGR 3303
Advanced Chemistry: Either CHM 3120 and CHM 3120L, or CHM 3400, or BCH 4313, or BCH 4203.

A list of suggested elective course for preprofessional students is available in the Office of Preprofessional Education. Their list includes courses in Biochemistry, Microbiology, and Zoology which should be taken in addition to the required courses.

The usual timetable for application to professional school is:

1) Complete the preprofessional core requirements within the first three years of college, preferably by the summer of the year preceding the year of graduation.
2) Apply for and take the admission test (DAT, MCAT, or OCAT), preferably in the spring of the year preceding the year of graduation. Delay in taking the test until the fall may reduce chances of admission.
3) Have letters of evaluation collected in a confidential file by the Office of Preprofessional Education (see procedure described in services to Preprofessional Students in the PREPROFESSIONAL GUIDE available at the Office of Preprofessional Education) during the third year of college.
4) Submit completed applications (including admission test scores and letters of evaluation) to the professional schools by the end of August or the first part of September (at the latest) of the year preceding the year of graduation. Delay in completion of applications beyond that date may reduce chances of admission.
5) Maintain a high academic performance and send transcripts of subsequent quarters to professional schools at which your application is being considered.
6) Interviews for applicants being seriously considered are conducted in the fall and winter by professional schools.
7) Notices of acceptance or rejection are usually received by the spring of the following year although some acceptances may be offered as late as the week before classes start.

Besides meeting the preprofessional course requirements, students are strongly recommended to gain some experience in the health care delivery environment of their career choice. Such experience may be obtained by participation in the programs of the Preprofessional Honor Society-Alpha Epsilon Delta, The Minority Preprofessional Association—MPA, and the Preprofessional Service Organization-PSO at the University of Florida. More details about these programs and applications are available at the Office of Preprofessional Education.

STANDARD PROGRAM FOR YEAR 1

Many students reach a decision to prepare for a career in medicine or dentistry during or after one year of college. Such students will usually have to complete requirements at a more accelerated rate if they wish to graduate on schedule. The degree of acceleration should be discussed with a preprofessional adviser in their major department.

Any sequence of general chemistry is acceptable. The basis for choice among CHM 2040, 2045C, 2050C (Honors), and CHM 2055C is outlined in the catalog section preceding chemistry course listings and in the Preprofessional Guide. For qualified students possessing a good background in chemistry, physics and mathematics, the CHM 2055C sequence offers a number of advantages, including time flexibility. MAC 3311, 3312 and STA 3023 should be completed this year. American Institutions and English requirements should be completed by taking the appropriate courses or via College Level Examination Program (CLEP) credit. Liberal arts elective courses including English courses, and a foreign language, are among options for students who have completed Social Sciences and English by CLEP credit. Those having a background in foreign language prior to entering the University may satisfy all or part of the foreign language requirement by taking a placement examination, which is offered several times during the year by the foreign language departments.

STANDARD PROGRAM FOR YEAR 2

If a student has not finished general chemistry, it should be completed in this year. Organic chemistry should be begun and completed this year. CHM 3200 is not acceptable. Qualified students are advised to consider application to the honors sequence CHM 3215, 3216. Three quarters of biology BSC 2010C, 2011C, and 2012C should be completed by the end of this year. BCH 3613 may be elected during the second year as an introduction to human molecular biology and biochemistry. Students should also complete the humanities requirements by coursework unless they have previous CLEP credit. Students with available time might consider beginning either a physics or foreign language sequence during this year.

Second-year premedical students who have a 3.5 average or higher and who have completed the above core requirements may want to apply for admission to the Junior Honors Medical Program. This program allows early acceptance to the University of Florida College of Medicine and participation in third-year medical school seminars. Interested students should contact the Assistant Dean for Preprofessional Education in the College of Medicine (12B Medical Sciences Building). Applications for this program are accepted during the winter quarter, and final selection is made during the spring quarter of the sophomore year.

YEARS 3 AND 4

During year 3, students generally complete Physics or any preprofessional core requirements as yet unfilled. During year 3 or 4 the foreign language requirement must be completed.

The remainder of years 3 and 4 is devoted to completion of a departmental major and elective courses in science and other areas. Professional schools attach no bias toward any particular major. Thus, although most students major in one of the sciences, it is equally possible and desirable to major in some other area. In general, the better the student's science and overall academic averages during the first two years, the greater the latitude that student will have in a choice of major. Since most preprofessional students do major in one of the sciences, the various common preprofessional science options are outlined below.

1) CHEMISTRY MAJOR — Complete CHM 3120 and CHM 3120L early in the third year if not taken previously. Also, complete CHM 4131 and CHM 3610. A student may select either physical chemistry sequence CHM 3400-CHM 3401-CHM 3401L or CHM 4410-CHM 4411-CHM 4411L-CHM 4412. If the CHM 3400 sequence is taken, CHM 4131L is also required. Integrated laboratory CHM 4740L may be taken in place of CHM 3401L. Recommended additional (optional) chemistry courses are: CHM 4230, CHM 4740L and CHM 4910.

2) MICROBIOLOGY AND CELL SCIENCE MAJOR — Students interested in a microbiology and cell science major should schedule MCB 3020, MCB 3020L after at least one quarter of organic chemistry. In addition to the above, the following courses constitute the remainder of the major program: PCB 3136, BCH 4313, and at least 21 credits of departmental course offering in the 4000 series. Students interested in undergraduate research projects as well as departmental honors should discuss MCB 4905 with the undergraduate coordinator. In addition, quantitative analysis (CHM 3120 and CHM 3120L) are required background courses for this major.

3) ZOOLOGY MAJOR — A preprofessional zoology major must take either PCB 3063, or PCB 3653C and at least one course from each of the following four sets:

a. ZOO 3303C, ZOO 3203C
b. ZOO 3703C, ZOO 3605C
c. PCB 4044C or PCB 4675
d. ZOO 4755C or PCB 4745C

(Suggested course selections for preprofessional students are (a) ZOO 3303C, (b) ZOO 3703C or ZOO 3605C, (c) PCB 4675, and (d) ZOO 4755C, or PCB 4745C.

At this point, the student will have 37 major credits which should include the BSC 2010C, BSC 2011C, BSC 2012C sequence and will complete the major requirements in zoology. The student should also be aware of the possibility of research experience through ZOO 4905. Two quarters of ZOO 4906 are required for departmental honors.

4) BIOCHEMISTRY MAJOR — Although an undergraduate major is not currently available, the undergraduate biochemistry program (see description under Biochemistry) offers a comprehensive series of courses providing a concentration in biochemistry and molecular biology. Courses in the sequence BCH 3613, BCH 4313, BCH 4203, BCH 5055L and PCB 4535 may supplement or substitute for comparable courses in related major programs. Students desiring research experience in this area should consider BCH 4905. At some professional schools students having taken a biochemistry as undergraduates may exempt themselves from the biochemistry course taught as part of the basic medical science sequence.

5) INTERDISCIPLINARY MAJOR — This major, described elsewhere in the College of Liberal Arts and Sciences section of the catalog is available for above average preprofessional students.

Transfer students who have received credit for the first two years of college at another institution should have no difficulty in adapting themselves to the above format with the help of a preprofessional adviser. Since relatively heavy weight is placed by professional schools upon the performance of transfer students in their third year, such students should plan on taking at least 30 hours in science during the first three or four quarters at the University of Florida. Those transfer students who have completed all of the basic preprofessional course requirements should consider taking additional courses in either chemistry, zoology, microbiology, biochemistry, physics, mathematics or statistics. By doing well in courses which are taken by many preprofessional students at the University of Florida, transfer students can enhance their academic records and provide admission committees with a basis of comparison of their academic abilities with other applicants.

Choice of electives: Professional schools do not appear to have any significant bias toward elective courses chosen by

students. These schools, in fact, look with favor upon students who have shown broad interests and educational development during their college career. Commonly selected science electives include senior research, BCH 3613, BCH 4313, 4203, MCB 3020, 3020L, ZOO 4755C, PCB 4745C. Students who have displayed academic weakness in any of the required preprofessional core course areas (especially chemistry or biology) generally are advised to offset such weaknesses by stronger performances at a more advanced level. It should be reemphasized that students applying to the University of Miami School of Medicine and to the University of South Florida College of Medicine should complete additional advanced courses as listed above before graduation regardless of their major.

CLEP Credit: It is generally agreed that receipt of such credit does not imply the equivalent of educational experience received in a University level course. CLEP credit does not substitute for any of the preprofessional core requirements listed above. In general, the utilization of CLEP credit will give students some additional flexibility in completing their educational requirements. In some cases, this flexibility will take the form of accelerated entry into professional school. Preprofessional students using CLEP credit to satisfy general education requirements are encouraged to register for liberal arts courses in English, social sciences and humanities, at the 2000 level or above provided they have the necessary prerequisites.

Post-baccalaureate undergraduate work: Students who have received a BS or BA degree and have not qualified for professional school because of a lack of quality and/or quantity of preprofessional work may want to consider additional work at the undergraduate level to make up these deficiencies. Students interested in this possiblity should consult the Director of the Office of Preprofessional Education, 353 Little Hall.

NURSING

General Education Requirements

	Credits
English	6
Social Sciences (SSI 2110 and SSI 2120 or SSI 2122)	6
ANT 2410 (Cultural Anthropology) or SOC 2000 (Sociology)	4-5
Physical Science (ISC 2400 and ISC 2401 or ISC 2452 and PSC 2701	6
Biological Science (APB 2150, 2151, 2152, BSC 2010, ANT 3511 are recommended)	8
Humanities	12
Behavioral Studies (BES 2121, 2132, 2351, MAF 2200, PSY 2013 or PCO 3714 are recommended	8
PEM 1100 Physical Education	2
Sub-total	52

***Preprofessional**

Microbiology APB 2170-APB 2170L	5
**Human Nutrition HUN 2201	4
Expository Writing	3
Statistics or Algebra	4
Chemistry	4
Human Anatomy and Physiology PET 3320 and PET 3350	8
Developmental Psychology or Human Growth and Development (DEP 3003 or EDF 3110)	4
Sub-total	32
Electives	12
Total	96

*Preprofessional courses cannot be met by CLEP.
**HUN 2201 may be taken by correspondence.

Suggested Course Sequence

FRESHMAN YEAR

	Credits
ENC 1102 Expository Writing	3
APB 2150, 2151, or 2152 The Biological Sciences	4
MAC 1132 Algebra and Trigonometry	5
PEM 1100 Physical Education	2
English	3
APB 2150, 2151, or 2152 The Biological Sciences	4
SSI 2120 Social Science	3
ISC 2400 or ISC 2452	3-4
English	3
HUN 2201 Human Nutrition	4
SSI 2122 Social Science	3
EDF 3110 (Human Growth & Development) or DEP 3003 (Developmental Psychology	4-5
Elective	4-6

SOPHOMORE YEAR

	Credits
APB 2170 and APB 2170L	5
HUM 2210 Western Humanities	4
MAF 2200 or PSY 2013	4
Chemistry	4
PET 3320 Applied Anatomy	4
HUM 2230 Western Humanities	4
ISC 2401 or PSI 2701	3-4
PCO 3714, BES 2351 or MAF 2402	4
HUM 2250 Western Humanities	4
SOC 2000 or ANT 2402, Sociology or Cultural Anthrpology	4-5
PET 3350 Applied Physiology & Lab	4
Electives	3-4

PHARMACY

The program of study leading to the degree of Bachelor of Science in Pharmacy is divided into two parts — two years of prepharmacy while classified UF and three years in the College of Pharmacy.

In keeping with the accreditation requirements of the American Council on Pharmaceutical Education, all students must be enrolled in one or more required pharmacy courses in the College of Pharmacy for a minimum of nine quarters, regardless of the number of studies completed in other fields. Upon applying for admission to the College of Pharmacy, it is advised that the student see the College of Pharmacy Assistant Dean for Student Affairs, (PHM, room P-111) to be sure that all recommended prepharmacy courses will be completed by September.

Prepharmacy Program

To be considered for admission to the College of Pharmacy the applicant must have: (1) earned at least 96 quarter hours of acceptable college credit with an overall average of "C" or higher on all course work attempted; (2) completed all lower division courses required for the desired curriculum as indicated below in the program for the Freshman and Sophomore years; (3) passed all the required preprofessional courses (general and organic chemistry, physics, biological sciences and mathematics) within the prepharmacy curriculum with an average of "C" or higher; and (4) submitted scores on the Pharmacy College Admission Test (PCAT) to the College of Pharmacy. See *College of Pharmacy* for further information on Requirements for Admission and PCAT.

The courses listed below are recommended for the first two years of prepharmacy. For academic advisement and other information contact the Office for Student Affairs, College of Pharmacy (Room P-111), J. Hillis Miller Health Center.

	Credits
Social Sciences	9
English	9-11
Behavioral Studies or Equivalent	3

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*CHM 2045C, 2046C, 2047C Gen. Chem. & Qual. Anal.	12
Humanities	12
BSC 2010C, 2011C, 2012C Integrated Biology Core	12
PHY 2050, 2051, or 2052 General Physics	8
**PHY 2050L, 2051L, 2052L Physics Laboratory	2
CHM 3210, 3211 Organic Chemistry	7
CHM 3210L, 3211L Organic Chemistry Laboratory	3
PEM 1100 Physical Education	2
***Approved Electives	15-17
Total	96

*Students not qualified for this sequence should take the CHM 2040, 2041C, 2042C, 2043C series (16 credits).

**A minimum of 10 credits is required for students planning to pursue the community and hospital pharmacy areas. Students wishing to pursue a research pharmacy career should complete the whole sequence.

***The electives shall include a mathematics requirement through one course in calculus. Recommended courses are MAC 1132 (Algebra and Trigonometry) and one of the following: MAC 2223 (Analytic Geometry and Calculus for Architecture); or 2233 Calculus for Economics and Business); or the first course in the MAC series beginning with MAC 3311 (Analytical Geometry and Calculus). Students planning to pursue a research pharmacy career should take MAC 3311. The remaining elective credits are to be chosen by the student.

The professional sequence of courses is on an annual basis only beginning in September each year. Students are admitted to the College of Pharmacy annually, in September only, when the fall quarter begins. Students in prepharmacy should plan their course schedules for each term so that the minimum 96 credits and specific course requirements are satisfied by June of the year expected to enter the College of Pharmacy.

PHYSICAL EDUCATION, HEALTH AND RECREATION

Students expecting to major in the College of Physical Education, Health and Recreation should pursue one of the following programs:

A. FOR MEN AND WOMEN INTENDING TO MAJOR IN PHYSICAL EDUCATION

General Education Requirements

	Credits
Social Sciences	
POS 2041 American Federal Gov't. or	
POS 2112 American State and Local Gov't.	3-5
SSI American Institutions	6
Behavioral Studies	
PSY 2013 General Psychology or	
PCO 3714 Personal Growth	4
Biological Science	
APB 2152 Biological Science Cell and Organism Biology	3
PET 3320C Applied Human Anatomy	4
PET 3350C Applied Human Physiology	4
English Composition (ENC 1102, ENG 1200, ENG 1400 or ENG 1710	11
Humanities	12
Mathematics	4
Health Education:	
HES 2000 Personal and Family Health	4
HES 2400 First Aid and Personal Safety	3
PEM 1100 Physical Education: Basic Concepts	2
Physical Science	
ISC 2400 Fundamentals of Physical Science or	
PHY 2004 Applied Physics or	
PHY 2050/2050L General Physics and Lab	4-5
ISC 2401 & 2402 Fundamentals of Physical Science	6
Speech:	
SPC 3601 or SPC 2300	4-5

Preprofessional Requirements

	Credits
DAE 2320C Modern Dance Teaching Methods	3
DAE 2360C Folk and Social Dance	3
HES 2000 Personal and Family Health	4
HES 2400 First Aid and Personal Safety	3
PEO 1011C Softball and Flag Football Teaching Methods	2
*PEO 1321C Volleyball Teaching Methods	1
PEO 1511C Soccer and Related Sports Teaching Methods	2
*PEO 1521C Team Handball Teaching Methods	1
PEO 2031C Recreational Activities I Teaching Methods	2
PEO 2032C Recreational Activities II Teaching Methods	2
PEO 2121C Golf Teaching Methods	2
PEO 2341C Tennis Teaching Methods	2
#PEO 2561C Field Hockey Teaching Methods	2
PEO 3621C Basketball Teaching Methods	2
PEP 1301C Track and Field Teaching Methods	2
**PEP 2131C Weight Training and Conditioning	2
PEP 2201C Gymnastics Teaching Methods	2
#PEP 2401C Martial Teaching Methods	2
#PEP 2421C Wrestling Teaching Methods	2
PEQ 1121C Swimming Teaching Methods	3
**PET 3590C Professional Seminar in Physical Education	1
PET 3940C Field Experience in Physical Education I	1
PET 3944C Field Experience in Physical Education II	1
SPC 3601 Public Speaking or SPC 2300 Introduction to Speech Communication	4-5
Second Teaching Field Electives	9

*To be taken as co-requisites.
**To be taken as co-requisites.
#Student selects one of these three courses.

Suggested Course Sequence

FRESHMAN YEAR

	Credits
SSI 2110 American Institutions Culture and The Socializing Institutions	3
ENC 1120 English Expository Writing	3
ISC 2400 Fundamentals of Physical Science	4
PEM 1100 Basic Concepts	2
Choice of preprofessional courses listed above	2-4
SSI 2120 American Institutions The Emergence of the Economic and Political Institutions	3
ENG 1200, 1400, 1710 English Intro. to: Fiction, Drama, Poetry	4
ISC 2401 Fundamentals of Physical Science	3
PEM 1201, PEN 1121, PEL 1121, PEL 1341 as needed Gymnastics, Golf, Swimming, Tennis	1
Choice of preprofessional courses listed above	2-5
POS 2112 American State and Local Gov't. or POS 2041 American Federal Gov't.	3-5
ENG 1200, 1400, 1710 English Intro. to: Fiction, Drama, Poetry	4
ISC 2402 Fundamentals of Physical Science	3
PEM 1201, PEN 1121, PEL 1121, PEL 1341 as needed Gymnastics, Golf, Swimming, Tennis	1
Choice of preprofessional courses listed above	2-5

SOPHOMORE YEAR

	Credits
MGF 1113 Fundamental Mathematics	4
HUM 2210 Western Humanities	4
APB 2152 Biological Science Cell and Organism Biology	3
PET 3590 Professional Seminar in Physical Education	1
Choice of preprofessional courses listed above	2-5
Choice of general physical education courses as needed to make up deficiency or for enrichment	0-1

HUM 2230, 2250 Western Humanities 4
PET 3320 Applied Human Anatomy 3
PET 3320L Applied Human Anatomy Lab 1
PET 3940 Field Experience in Physical Education I 1
PSY 2013 General Psychology or
PCO 3714 Personal Growth 4
Choice of preprofessional courses as listed above 2-4
Choice of general physical education courses as needed 0-1

HUM 2250, 2410, 2420 Humanities Western, Asian, and African 4
PET 3350C Applied Human Physiology 3
PET 3350L Applied Human Physiology Lab 1
PET 3944C Field Experience in Physical Education II 1
SPC 3601 Public Speaking or
SPC 2300 Introduction to Speech Communication 4-5
Choice of preprofessional courses as listed above 2-3
Choice of general physical education courses as needed 0-1

B. FOR MEN AND WOMEN STUDENTS INTENDING TO MAJOR IN HEALTH EDUCATION

General Education Requirements

	Credits
English	11
MAC or MFG Mathematics	4
Social Sciences	9
The Humanities	12
Physical Sciences	4
CHM Chemistry	4
APB Biological Sciences	10
SPC Oral Communication	4
PEM Basic Concepts of Physical Education	2

Preprofessional Requirements

	Credits
HES 2000 Personal and Family Health	4
HES 2001 Community and Environmental Health	4
HES 2400 First Aid and Personal Safety	3
PSY 2013 General Psychology	4
APB Microbiology	5
SOC 2000 Principles of Sociology	4
Electives for concentration area(s)	12

Suggested Course Sequence

FRESHMAN YEAR

	Credits
ENC 1102 English Expository Writing	3
SSI 2110 Social Science Culture and Social Institutions	3
APB 2150 Biological Science Genetics and Evolution	3
HES 2000 Personal and Family Health	4
PEM 1100 Basic Concepts of Physical Education	2
ENG 1200 English Introduction to Fiction	4
SSI 2120 Social Science Emergence of the Economic and Political Institutions	3
APB 2151 Biological Science Ecology and Behavior	3
PSC 2501 Our Environment	4
*Electives for concentration area(s)	3
ENG 1400 English Introduction to Drama	4
SSI 2122 Social Science Economic and Political Institutions/Urban America	3
APB 2152 Biological Science Cell and Organism Biology	3
APB 2150L Lab in Biological Science	1
*Electives for concentration area(s)	5

*Choices may be made from a number of interdisciplinary courses. See academic advisers for checklist of courses and acceptable substitutes in the concentration areas.

SOPHOMORE YEAR

	Credits
MGF or MAC Mathematics	4
HUM 2210 Western Humanities	4
HES 2001 Community and Environmental Health	4
SOC 2000 Principles of Sociology	4
HUM 2230 Western Humanities	4
CHM Chemistry	4
SPC Oral Communication	4
HES 2400 First Aid and Personal Safety	3
HUM 2250 Western Humanities	4
APB 2170 Microbiology	3
APB 2170L Discussion Laboratory in Microbiology	2
PSY 2013 General Psychology	4
*Electives for concentration area(s)	4

*Choices may be made from a number of interdisciplinary courses. See academic advisers for checklist of courses and acceptable substitutes in the concentration areas.

C. FOR MEN AND WOMEN INTENDING TO MAJOR IN RECREATION

General Education Requirements

	Credits
*English	9
Fundamental Mathematics	4
Behavioral Studies	6
Social Sciences	9
The Humanities	12
**Physical Sciences	9
**Biological Sciences	9
PEM 1100 Physical Education	2

*Must earn a grade of "C" or better on all English composition requirements prior to graduation.
**Three credits of one of these may be omitted.
Choices may be made from a number of interdisciplinary courses. See academic advisors for checklist of courses and acceptable substitutions in the emphasis areas.

Preprofessional Requirements

(For Public and Therapeutic Recreation Concentration)

	Credits
MUY 3601 Music in the Field of Recreation	4
DAE 2360 Folk and Social Dance	3
PEQ 1121 Swimming	2
HES 2400 First Aid	3
SPC 3601 or 2300 Speech	4
ART 3100 Crafts	4
EDF 3110 Human Growth and Development	5

(For Public Recreation Concentration)

	Credits
*SOC 2000 Principles of Sociology or (SSI 2110)	4
SOC 2020 Social Problems or (SOC 3001, 3310)	4
*PSY 2013 General Psychology or (BES 2121)	2
LIS 2001 Use of Books and Library	2
ENC 3351 Business Communication	5
ECO 2013 Basic Economics I or (MAR 3023)	5
*POS 2112 American, State and Local Government or (SSI 2120)	3

Five activity hours requiring at least one from each of the following five areas:

a. gymnastics, tumbling, modern dance, or body conditioning
b. racket sports — racquetball, tennis, badminton
c. combatives — wrestling, karate, judo, jujitsu, fencing
d. individual sports - golf, archery, bowling, or track
e. team sports - volleyball, basketball, soccer, softball

(For Therapeutic Recreation Concentration)

	Credits
PPE 3000 Psychology of Personality	5
EAB 4701 Behavior Analysis	5
HES 2000 Individual and Family Health	5
*PSY 2013 General Psychology	4

*Counts for General Education and Preprofessional Requirements

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Suggested Course Sequence
(Public Recreation Concentration)

FRESHMAN YEAR

	Credits
Social Sciences	3
English	3
PSC 2501 Phys. Sci	4
LIS 2001 Use of Books and Library	2
PEM 1100 Physical Education Activity Requirement	2
Social Sciences	3
ENC English	3
PSC 2701 Physical Sci.	3
POS 2112 Amer. State & Local Gov't.	3
Activity Requirement	1
PEQ 1121 Swimming	3
Social Sciences	3
English	3
SPC 2300 Introduction to Speech Communications	4
HES 2400 First Aid	3
Activity Requirement	1
Electives	2

SOPHOMORE YEAR

	Credits
Behavioral Studies	3
HUM 2210 Humanities	4
APB 2150 Biological Science	3
DAE 2360 Folk & Social Dance	3
Activity Requirement	1
LEI 3507 Special Events: Administration and Programming	3
Behavioral Studies or CPS Physical Science	3
HUM 2230 Humanities	4
APB 2151 Biological Science	3
SOC 2000 Principles of Sociology	4
Activity Requirement	1
MGF 1113 Fundamental Math	4
HUM 2250 Humanities	4
APB 2153 Biological Science	3
PSY 2013 General Psychology	4

(Therapeutic Recreation Concentration)

FRESHMAN YEAR

	Credits
English	3
Social Sciences	4
ENC English	3
PSC 2501 Physical Science Our Environment	4
PEM 1100 Basic Concept of Physical Education	2
HES 2400 First Aid	3
Social Sciences	3
ENC English	3
PSC 2701 Physical Science	3
Electives	3
PSY 2013 Introduction Psychology	4
Social Sciences	3
ENC English	3
PEQ 1121 Swimming	2
SPC 3601 Public Speaking	4

SOPHOMORE YEAR

	Credits
HUM 2210 Humanities	4
DAE 2360 Folk & Social Dance	3
HES 2000 Individual & Family Health	5
Elective	4
HUM 2230 Humanities	4
LEI 3330 Camp Counseling	4
APB 2151 Biological Science	3
Elective	4
LEI 3507 Special Events	3
SOC 2000 Principles of Sociology	4
MGF 1113 Fundamental Math	4
HUM 2250 Humanities	4
APB 2153 Biological Science	3

College of Liberal Arts and Sciences

INFORMATION FOR STUDENTS SEEKING DEGREES IN LIBERAL ARTS AND SCIENCES

SUBJECT-MATTER FIELDS

The subject-matter fields regularly offered to students in the College of Liberal Arts and Sciences and the extent of these offerings are indicated in the table below:

Subject	Major	Masters	Ph.D.	Electives
American Studies	X	—	—	X
Anthropology	X	X	X	X
Art	X			X
(Graduate work offered through College of Fine Arts.)				
Asian Studies	X	—	—	X
Astronomy	X	X	X	X
Atmospheric Sciences	—	—	—	X
Biochemistry	—	—	—	X
Biology	—	—	—	X
Botany	X	X	X	X
(Degrees also offered through College of Agriculture.)				
Chemistry	X	X	X	X
Chinese	—	—	—	X
Classics	X	X	—	X
Computer and Information Sciences	X	—	—	X
Criminal Justice	X	—	—	X
Economics	X			X
(Graduate work offered through College of Business Administration.)				
English	X	X	X	X
French	X	X	X	X
Geography	X	X	X	X
Geology	X	X	—	X
German	X	X	—	X
Greek	—	—	—	X
Hebrew	—	—	—	X
History	X	X	X	X
Individual/Interdisciplinary Studies	X	—	—	—
Italian	—	—	—	X
Journalism	—	—	—	X
(Major and Graduate work offered through College of Journalism and Communications.)				
Latin	—	X	—	X
Latin American Studies	—	X	—	X
Linguistics	—	X	X	X
Mathematics	X	X	X	X
Microbiology and Cell Science	X	—	—	X
(Degrees also offered through College of Agriculture.)				
Music*	X	—	—	X
Philosophy	X	X	X	X
Physics	X	X	X	X
Polish	—	—	—	X
Political Science	X	X	X	X
Portuguese	—	—	—	X
Psychology	X	X	X	X
Religion	X	—	—	X
Russian	X	—	—	X
Sociology	X	X	X	X
Spanish	X	X	X	X
Speech	X	X	X	X
Statistics	X	X	X	X
Swahili	—	—	—	X
Theatre	X	—	—	X
(Graduate work offered through College of Fine Arts and Department of Speech.)				
Zoology	X	X	X	X

*Except for music majors, a maximum of 9 hours of credit in ensemble music may be included in the minimum of 186 hours required for the degree.

REQUIREMENTS FOR ADMISSION TO THE LS CLASSIFICATION

The University of Florida and the College of Liberal Arts and Sciences encourage applications of qualified students from all cultural, racial, religious, and ethnic groups. Listed below are the specific requirements for admission to this college. It should be understood however that minimum requirements are given and that admission to this college is a selective process. The satisfaction of minimum requirements does not automatically guarantee admission. A student's total record including educational objective, pattern of courses previously completed, quality of previous academic record, and test data will all be considered in evaluating an application for admission. Priority in admission will be given to those applicants whose potential on the basis of their total record indicates the greatest likelihood of success in the program requested.

Students classified UF: admission to the LS classification is normally approved if the student has earned acceptable college credit with an overall average of 2.0 or higher on all college level work attempted. Certain majors require higher averages, however. Students should contact their major department concerning this. Students should, however, be firm about their major before applying for the LS classification.

Transfer Students: To be eligible for admission to the College of Liberal Arts and Sciences, with an LS classification, a transfer student must satisfy the minimum requirements for admission to an Upper Division College that are set forth in the ADMISSIONS Section of this catalog.

A. Students attending four year colleges, who wish to transfer after two years, should follow a program of general education and preprofessional courses as outlined under Requirements for Degree.

B. Junior and Community College transfer students should:

1. Complete a university transfer program at the lower division College.

2. Indicate an intended major field of concentration, using the exact terminology as on the list of majors at the beginning of the Liberal Arts and Sciences section of this catalog.

3. If pre-medical, pre-optometry, pre-dental, or pre-veterinary, or students who plan to major in mathematics, biological or physical sciences: be certain to substitute subject-matter courses in mathematics, botany, zoology, chemistry, or physics for survey courses in those areas. See Medicine, Dentistry and Optometry programs listed in earlier pages.

4. Attempt to satisfy the foreign language requirement of the College prior to transfer. Fifteen quarter hours of a single foreign language with grades of "C" or better, including course work at the intermediate level, will meet this requirement if two (2) courses in the same language are taken at the intermediate level. For further advisement see below, Section D of "Requirements for Degree".

5. Complete sequential courses prior to transfer, especially the foreign language sequence (see item 4 above). Some courses are cumulative and represent a direct continuation of work done in a previous course. It is difficult to guarantee complete articulation of such courses when they are offered in different institutions.

6. Choose general education courses to satisfy the basic distribution requirement (See Section 8, under Requirements for Degrees), and choose a variety of elective courses as needed to complete 96 quarter hours of credit. (Vocational-technical courses will not count as transfer credit.)

7. Earn a grade of 2.0 or better in each course attempted. No course in which a grade of less than 2.0 has been earned may be used to satisfy any basic or major requirements in the College of Liberal Arts and Sciences.

8. Wait until after transfer to the University to take courses in professional education if the student expects to work toward certification to teach.

Special post-baccalaureate student (6AS): A student who has received a baccalaureate degree but who is not seeking admission to the Graduate School may, under certain conditions, be admitted as a special student (6AS). The applicant must meet deadlines printed in the University Calendar. The College will seek the approval of the appropriate academic officer: the chairperson of the department specified by the student, the graduate coordinator of the department, or the Director of Preprofessional Education. Such approval must be granted for admission. Students making application for admission under this category are advised that they *must declare a specific major field of study.*

Graduate student: The general section of this catalog dealing with admission describes certain minimum requirements for admission of graduate students to the University. Additional details for admission are given in the Graduate School catalog.

ADVISEMENT OF STUDENTS CLASSIFIED LS

Upon admission to the LS classification, the student should contact the Academic Advisement Office, 358 Little Hall for referral to a departmental academic adviser. The College policy is self advisement. The faculty member's role is *only to give advice. The student assumes the responsibility for fulfilling college and departmental degree requirements.*

Students are urged to review the information presented in the Liberal Arts and Sciences section of the catalog each quarter when planning their programs. Failure to read, understand, and follow the guidelines presented here could cause significant hardship and delays in their academic progress. Clarification of college requirements is available in the Academic Advisement Office, 358 Little Hall.

Pre-Professional Advisement is available through 353 Little Hall for Pre-medical, Pre-dental, Pre-optometry and Pre-law students.

HONORS PROGRAMS FOR JUNIORS AND SENIORS

Consistent with its view that higher education should result in the development of each student as an intellectual individual, this college gives its students individually tailored degree programs of formal courses. In addition the College offers a variety of opportunities for independent and seminar honors work to those of its undergraduates who have demonstrated appropriate qualifications.

Superior students should take initiative in planning undergraduate and graduate programs. They should consult advisers about Departmental and High Honors, Phi Beta Kappa, and scholarships like Rhodes, Danforth, Marshall, Fulbright-Hays, and the National Science Foundation. For further information see Dean Michael Gannon in 2008 GPA.

Dean's List

The Dean's List regularly recognizes outstanding academic achievement. Inclusion on the list is awarded to students who maintain a grade point average of 3.5 or higher on reasonable course loads. This award is not granted for courses taken under the S-U option or for which a grade of "I", "X", or "H" has been submitted.

PHI BETA KAPPA

Phi Beta Kappa is an honorary scholastic society for students of high intellectual ability with a broad liberal education. The first chapter was founded in 1776 at the College of William and Mary. The UF chapter was established in 1938. Election is by invitation, not application.

Not over 10 percent are chosen from those ranking academically in the upper 15 percent of the senior class in the College of Liberal Arts and Sciences who also meet the following criteria: at least 68 quarter hours of courses in the College of Arts and Sciences; completion of the foreign language requirement; a broad distribution of letter-graded upper division electives outside the major subject (notably, in the humanities, social sciences, mathematics, and the physical and biological sciences); and superior academic performance in lower and upper division generally, as well as in the major field.

Students in colleges other than Liberal Arts and Sciences who meet these requirements may be recommended in writing by the dean of their College. The society also considers a selected number of graduate students in Liberal Arts and Sciences who have earned the Ph.D. during the previous year.

For further information, communicate with the Chapter Secretary, whose name and address can be obtained from the College Advisement Office, 358 Little Hall.

GENERAL REGULATIONS

Maximum, Minimum and Normal Loads: The normal course load in this College is 15 credit hours, and all students are expected to carry a normal load. Loads which are either lighter or heavier than normal must be justified and approved by the student's academic adviser. Loads in excess of the College maximum of 19 hours or below the University minimum of 12 hours for a full-time student require approval of the Dean as well as the student's adviser.

Adding/Dropping/Withdrawing: Courses may be added any time during the drop/add period if this does not increase one's registration to more than 19 hours. Courses may be dropped during the drop/add period without penalty as long as this does not lower one's registration below 12 hours (See Maximum, Minimum and Normal Loads above). After the drop/add period, a course may be dropped up to the date established as the College deadline. All drops are subject to the following restrictions:

(1) No more than two (2) such drops, after the University's drop/add period, will be permitted in the student's upper division career.

(2) After the deadline students may petition to drop a course provided they can document sufficient reasons to drop, usually hardship or medical.

(3) The course load will not be reduced below 12 hours. (A petition to the Liberal Arts and Sciences Petition Committee must accompany such a request to drop a course which does reduce the load below 12 hours.)

(4) Final approval to drop a course after the University's drop/add period must be obtained from the Academic Advisement Office, 358 Little Hall. Students must attend all classes for which they are registered. Failure to attend a class will not be accepted by the College as constituting a drop; the only procedure for dropping a class is the proper processing of a drop card which the student must initiate.

(5) Students dropping their entire courseload must contact the Office of the Registrar as this constitutes withdrawal from the University, and must be handled by withdrawal procedures established by the Registrar and subject to the published catalog deadlines.

Student Petitions: A student who feels that the College regulations work a particular hardship or injustice may petition for waiver of the regulation involved. Information on procedure in submitting such petitions is available in the Academic Advisement Office, Room 358, Little Hall.

Registration in Graduate Courses: In accordance with the rules of the Graduate School, undergraduate students may not register in graduate courses (500 level and above) without permission of the College Dean. This permission is normally given only to students in their Senior year who are carrying not more than 17 hours and have an average of at least 2.8. Students must present written approval from both the instructor of the course and the graduate coordinator of the department offering the course.

Registration beyond normal period for completion of degree: Any student who has completed all of the academic requirements for the Baccalaureate degree but has not obtained the degree will be denied further registration in the College. A student who has completed more than 15 hours beyond the normal minimum requirement for his degree without receiving the degree, must obtain permission of the Dean for further registration.

Class Attendance: The University and this College recognizes the right of the individual professor to make attendance mandatory and, where appropriate, and after due warning, to suspend students from those courses with failing grades for excessive absences.

REQUIREMENTS FOR DEGREES

The program which lead to the degrees Bachelor of Arts or Bachelor of Science are alike in all basic requirements.

The degree Bachelor of Arts will be conferred upon those who fulfill the requirements for degrees with majors in one of the fields of American Studies, Anthropology, Art, Asian Studies, Classics, Criminal Justice, Economics, English, French, German, History, Music, Philosophy, Political Science, Religion, Russian, Sociology, Spanish, Speech, and Theatre.

The degree Bachelor of Science will be conferred upon those who fulfill the requirements for degrees with majors in one of the fields of Astronomy, Botany, Chemistry, Microbiology, Physics, and Zoology.

The degree of Bachelor of Arts or Science will be conferred upon those who fulfill the requirements for the degree with a major in Computer and Information Science, Geography, Geology, Mathematics, Psychology, Statistics, or an Individual Interdisciplinary Program. A major in one of these subjects will lead to the Bachelor of Arts degree if the majority of subsidiary and elective credits in the student's entire undergraduate program are earned in the humanities and/or social sciences, and will lead to the Bachelor of Science degree if such subsidiary and elective credits are science credits. In no instance will the College confer two Bachelor of Arts degrees, or two Bachelor of Science degrees on the same student. The requirements for graduation with either of these degrees are listed below.

Student Responsibility: Students must assume full responsibility for registering for the proper courses and loads and for fulfilling all degree requirements. Students are responsible for completing all courses for which they are registered at the end of the drop/add period.

Seniors must file formal application for a degree in the Office of the Registrar early in the quarter in which they expect to receive the degree. The official calendar shows the latest date on which this can be done.

Additionally, Seniors who plan to graduate should have their academic file reviewed in the College of Liberal Arts and Sciences office one to two quarters prior to their graduation. In their final quarter seniors should have corrected all "I", "X" and "H" grades to letter grades by *no later than the end of the fifth week*. Seniors are themselves responsible for seeing that all grade changes are properly submitted and recorded by the College of Liberal Arts and Sciences Office by the above deadline.

A. CREDIT REQUIREMENTS AND RESTRICTIONS

A minimum of 186 quarter hours credit (normally 96 in the lower division and 90 while classified LS) with an overall average of "C" or better in all work transferred to or completed in the College and an overall average of "C" in all work attempted at the University of Florida. NOTE: Some credits may not be applicable toward the minimum degree requirements of this College. For example, no credit earned through courses in the Career Development Program or through the College Level Examination Program may be applied towards satisfaction of degree requirements once a student has earned 96 quarter credits at any college.

The degree program must include the components listed below. Mere accumulation of credit hours will not be sufficient for graduation from this College.

At the beginning of this section is a list of subject matter fields in which credit for a degree in Liberal Arts and Sciences is granted. The primary objective of this College is to provide its students with a liberal education and it is the conviction of the faculty that the fields listed are in general those which are conducive to a liberal education. However, a student may select for upper division elective credit up to 15 hours of work from other colleges within the University.

No credit will be given for coursework taken outside the College beyond the 15 hour limit except for the following special cases.

Special Cases:

1. The minimum total of 186 hours required for the bachelor's degree may include not more than 24 hours credit in education provided the student follows an approved program and becomes NCATE Certified. If a student is in a certification program, therefore, the only hours outside the college which could apply would be the 24 hours of education.

2. No more than 9 hours credit of ensemble music may be included in the minimum total of 186 hours. (This does not apply to Music majors).

3. In the first 96 hours of course work presented for admission to Liberal Arts and Sciences a student may receive credit for his degree for not more than 38 hours of work offered in other upper division colleges.

4. An approved interdisciplinary major may include more than 15 hours of course work in another College.

5. A preprofessional degree in Speech Pathology and Audiology may include up to 28 hours outside the College, as determined by the student's departmental advisor.

B. GENERAL EDUCATION REQUIREMENTS

Students are expected to complete general education requirements and the courses authorized for general education are listed on earlier pages. Advanced students may substitute other suitable courses if approved by a College Adviser. The College awards the Associate of Arts Certificate to qualified applicants to certify completion of general education. General education credit may also be used in satisfaction of the following Basic Distribution requirements.

C. DISTRIBUTION REQUIREMENTS

These requirements build upon the experiences, intellectual development, and insights acquired through the General Education program. They are designed to provide the liberally educated person with an understanding and appreciation of the human condition, the evolution of civilization and its institutions, and the principles of science and their impact on man and society.

General education course credits can be applied toward these requirements. Students must earn a grade of C or better in each of these courses. They may not be taken under the S-U option. One course cannot be used to complete requirements in two different areas. No more than 8 credits can be taken in History toward completion of distribution requirements.

These requirements include:

- 9 hours credit in English (At least one course must be a composition course — CLEP credit cannot be used to complete the composition requirement.)
- 16 hours credit in Humanities (No more than 8 credits in one department may be counted.)
- 16 hours credit in the Social and Behavioral Sciences (No more than 8 credits in one department may be counted.)
- 8 hours credit in Mathematics, Statistics, or Computer and Information Sciences (At least 4 credits must be in Mathematics.)
- 18 hours credit in the Natural Sciences (At least 7 credits must be in Biological Sciences and at least 7 credits in Physical Sciences, including a minimum of one laboratory course.)

TOTAL 67 credits

The following courses may be taken to complete the distribution requirements. This list does not replace general education requirements.

English: any course in English except LIS 2001, LIS 2100, and ENG 2540. Beginning students are normally expected to complete ENG 1102 and two additional courses from among ENC 1418, ENG 1200, ENG 1400, and ENG 1710, which are designed for freshmen. Qualified students, however, may substitute more advanced courses (2000 level) with the approval of a departmental adviser. Prerequisite to all 3000- and 4000-level courses are 9 hours of English or permission of the instructor.

Humanities: ASN 2001, any course in Classics, English Literature (English Literature courses at the 2000, 3000, and 4000 levels may be used to fulfill the Humanities requirement.), History, Humanities, LIN 3010, LIN 3340, Philosophy, Religion (except REL 3158 and REL 3322), Art, Music, and Foreign Language Literature.

Social and Behavioral Sciences: any course in American Institutions, ASN 2001, Anthropology, Behavioral Studies, Criminal Justice, Economics, Geography, except GEO 3200, History, LIN 3221, LIN 3611, LIN 3700, Political Science, Psychology, REL 3158, REL 3322, Sociology, CBH 3003, CBH 4023C, CBH 5085, EAB 5436, EXP 3204, EXP 4104, EXP 4104L, EXP 4214, EXP 4205L, EXP 4214, any PSB course, ANT 3511, SPC 2300, SPC 3601, SPC 3710.

Mathematics: any course in Mathematics (except MAC 1104, MTB 3364, any MAE course; MAT 1033 may only be counted in conjunction with MAC 1132L), any course in Statistics, and in Computer and Information Sciences.

Natural Sciences:

(Physical Sciences)—any course in Chemistry, Physics, Geology, Atmospheric Sciences, Astronomy, Physical Sciences, GEO 3200;

(Biological Sciences)—any course in Zoology, Botany; any BSC course, ANT 3511, APB 2150, 2151, and 2152, CBH 3003, CBH 4023C, DEP 3003, EXP 3204, EXP 3604, EXP 4104, EXP 4124C, EXP 4214, and any PSB course.

Laboratory Requirements: any course in a Natural Sciences department that has a laboratory. Also accepted are: ANT 3511, GEO 3200L, APB 2152L, SOP 4214C, EAB 4002C, EXP 4205L, EXP 4934, PPE 4324C, PSB 4104L, CBH 4023C, DEP 4704, PSC 2191L. Corequisites must be adhered to.

NOTE: Some lab courses may not be taken without corequisite courses.

D. FOREIGN LANGUAGE REQUIREMENT

All candidates for degrees awarded by the College of Liberal Arts and Sciences are required to have at least a minimum proficiency in some foreign language. The requirement may be met by the satisfactory completion of a sequence of three (3) five-hour courses including course work at the intermediate level (through 1112 or 1122). Students who plan to continue the study of a language which they began at another institution must take a placement test before registering. If proficiency through the 1112 or 1122 level is determined by examination, this will constitute completion of the foreign language requirement. Consult the appropriate language departmental office for specific examination schedules. Transfer students having fewer than 15 hours of one foreign language may complete the requirement beginning at the point determined by a proficiency test. The student is advised to take the language proficiency examination as early as possible after admission lest a basic course has to be repeated with the result that the student loses credit for prior coursework. If the student wishes to pursue study of a different language than that for which credit was previously earned, the earlier credit will stand. The language courses may be taken by the satisfactory-unsatisfactory grading option as long as they are not part of a major. Intensive summer study in French and Spanish is available for students who have earned no previous foreign language credit in college.

E. ELECTIVE REQUIREMENT

Of the minimum of 186 quarter hours required for a bachelor's degree in the College of Liberal Arts and Sciences, 96 are normally earned before the student is admitted to the LS classification. *At least 45 of the hours remaining after the first 96* must be earned outside of the student's major department. Thirty (30) of these hours must be in Liberal Arts and Sciences courses. Fifteen (15) may be taken in other colleges. However, no more than 15 quarter hours outside the College of Liberal Arts and Sciences will be counted toward the 186 minimum (except in special cases as noted above.)

F. RESIDENCE REQUIREMENT

The last forty-five hours to be applied toward a degree must be completed in residence in the College of Liberal Arts and Sciences. In special cases this requirement may be waived, but in no case may the amount of extension or correspondence work permitted exceed eighteen of the last fifty-four hours for the degree.

G. THE MAJOR

1. Departmental Majors: A departmental major consists of a concentration of course work in a specific department. On the application for admission the student must indicate an intended major, using the exact terminology as on the list of majors in the Liberal Arts and Sciences section of this catalog. The number of credit hours required for a major will vary from department to department, but in no case may the number of hours required be fewer than 36 hours or more than 60 hours in the major department. The student should check the major requirements

in the section of the catalog which lists the courses offered by the major department. Some departments may require subsidiary courses from subject-matter fields other than the major. No courses in the major in which the grade earned is below "C" will be counted toward the fulfillment of the minimum major requirement nor may they be taken under the S-U grading option. Work in the major taken in the freshman or sophomore years or transferred to the University from another institution is included in evaluating the student's record for this requirement. However, all transfer credit in the major must be approved by the major department and any such credit which is not approved as a part of the major will not apply towards the total credit requirement for the degree.

2. Interdisciplinary Majors: As alternatives to the departmental major, the College offers two kinds of interdisciplinary majors:

a. The interdisciplinary programs in *American Studies, Asian Studies, and Criminal Justice* have been fully planned by the cooperating departments and adopted by the College. For a description of each of these programs, see the appropriate heading under the alphabetical "Course Descriptions" section of this catalog.

b. An *individual interdisciplinary program* may be designed and initiated by a student whose academic and/or professional goals are not met by a departmental major. At least two faculty members from different departments must be consulted in planning the program, and they must also agree to supervise the program to completion. Each individual interdisciplinary program must be approved by the College Committee on Interdisciplinary Studies, and shall include at least 36 credit hours of related course work taken in two or more departments. All other College degree requirements (e.g., foreign language, general distribution, electives, etc.) must be met, except that course work taken in another college may be permitted to exceed 15 credits hours if such is required by an approved program. The student must also take at least 10 credits hours of IDS-4906 (or equivalent courses) under the direction of one or both of the supervisory faculty members, and produce a senior thesis.

Baccalaureate honors or high honors are available to individual interdisciplinary majors. Requirements are the same as for departmental majors, with the additional proviso that honors must be recommended by two members of the student's supervisory committee (including the principal supervisor), who will affirm that the student conducted an individual project in IDS-4906 (or equivalent) of high quality and reflecting the interdisciplinary nature of the program.

Planning for an individual interdisciplinary program should be initiated prior to the beginning of the Junior year, if possible. Students interested in pursuing an interdisciplinary major should contact Associate Dean F. Eugene Dunnam in the College Office, Room 2121, GPA.

The following interdisciplinary programs have been developed as a result of recent student interest in these concentrations:

Atmospheric Sciences (Meteorology)

Undergraduate students in the College of Liberal Arts and Sciences may be approved to develop an individualized in-interdisciplinary major in Atmospheric Sciences (or Meteorology) leading to the B.S. degree. The program is designed to provide the student with a background in the atmospheric sciences and their applications to such problems as air pollution, economic impact of weather on agriculture, influences of anthropogenic chemical releases on weather, atmospheric radiation, transmission of polar radiation through the atmosphere, and soil-water-air interfaces. The curriculum includes courses from such departments as Geography, Physical Sciences, Physics and Astronomy, Environmental Engineering Sciences, Fruit Crops, Mechanical Engineering, Agricultural Engineering, and Chemical Engineering.

A Minor in Atmospheric Science suited to the science or engineering major desiring a basic introduction to the study of the atmosphere is available.

A Non-Technical Minor in Atmospheric Science is also available. The program is designed to meet the increasing need for a fundamental understanding of environmental phenomena in many non-technical professions.

For further information, consult Dr. William Chameides, 309 Space Sciences Research Building.

Biochemical and Neural Sciences

Undergraduate students interested in advanced work in biochemistry and neuroscience, as well as in the interdisciplinary area of neurochemistry, may apply for acceptance into the individual interdisciplinary major program of Biochemical and and Neural Sciences in the College of Liberal Arts and Sciences. The program offers considerable breadth by virtue of its flexibility and the broad range of required and elective courses. Graduates of this program would have excellent backgrounds for research in a variety of the basic medical sciences, and would be well qualified for a variety of graduate and medical school programs.

Program applicants are required to have a good background in basic chemistry and zoology courses. Advanced-level work includes 1) course work required by both the Biochemistry and Neuroscience Departments; 2) research in neurochemistry, neuroscience, or biochemistry; 3) other elective courses to be selected from offerings by the Departments of Biochemistry, Botany, Chemistry, Microbiology, Neuroscience, Psychology, and Zoology.

For further information about the program as well as programs which can be developed in other departments within the basic medical sciences, consult Dr. James A. Deyrup, 328A Chemistry Research Building.

Film Studies

While the University of Florida does not offer an undergraduate degree in film or cinema arts, an individual interdisciplinary major in Film Studies is offered through the College of Liberal Arts and Sciences and the Department of Broadcasting in the College of Journalism and Communications. This interdisciplinary major provides a background in film history, aesthetics, theory, and criticism, and gives training and "hands on" experience in film production. Students usually begin this major at the start of their junior year in the College of Liberal Arts and Sciences.

Students interested in the program may obtain further information from a member of the Film Studies faculty. A list of Film Studies faculty members and their office addresses is available from the Department of English, 4008 General Purpose Building A.

Linguistics

An individualized major in Linguistics may be approved for undergraduate students in the College of Liberal Arts and Sciences. This program is designed to provide the student with a background in the study of language, dialects, communication, and particular languages. It will prepare the student for graduate work in linguistics or the study of languages, the teaching of English as a foreign language, and advanced work in related areas. The curriculum includes certain required core courses and optional courses from a variety of fields.

Interested students should consult Dr. Paul Kotey, Room 107, Grinter Hall.

Neurobiological Sciences

An individual interdisciplinary major in Neurobiological Sciences may be developed by academically strong undergraduate students in the College of Liberal Arts and Sciences through the faculty of the Center for Neurobiological Sciences. The program is intended to provide the student with a fundamental and broad-based academic foundation for graduate and professional programs and related areas.

The curriculum includes core requirements covering humanities; social sciences; and physical, natural, and biological sciences. In addition to the core requirements, students select courses in either a very broad or a more specialized program in, for example, such areas as animal behavior, neurochemistry, neurophysiology, sensory mechanisms, neuroendocrinology, brain and behavior, or neuroembryology. In order to focus their academic work in the various areas, all students in the program are required to participate in research with a member of the faculty of the Center for Neurobiological Sciences, coupled with a research seminar.

For further information about this program, consult the Psychology Dept. office, 114 Psy Bldg.

Urban Studies

Students in the College of Liberal Arts and Sciences who wish to pursue a major concentration in urban studies may apply to do so as an individual Interdisciplinary major. Alternatively they may also pursue a minor area of interest in the Urban Studies Certificate Program. The Urban Studies major is designed to provide a sound and broadly based program in the social sciences for students who plan to enter professional planning schools, graduate urban studies programs, or expect to work upon receipt of the baccalaureate degree.

The core of courses required of all students in the major provides the broadest possible exposure to the several disciplines concerned with urban problems and also to the broadest range of methodologies used in urban analysis. The major includes IDS 4905, a ten-credit course designed to provide the student with an opportunity to integrate his or her disciplinary knowledge. If possible, the research project in that course is carried out in conjunction with an internship in a firm or agency suitable to the student's interests.

A number of faculty members from departments in the social sciences serve as a panel from which the student chooses a committee of at least two members to supervise his or her progress through the program and the IDS 4905 project.

Questions about the Urban Studies programs may be directed to Dr. Virginia R. Hetrick, 3141 GPA.

SPECIAL PROGRAMS

TEACHER PREPARATION IN ARTS AND SCIENCES

Students may earn their degrees in the College of Liberal Arts and Sciences, and complete requirements for certification as high school teachers in one or more academic subjects by following one of the Liberal Arts and Sciences-Education Programs described in the College of Education section of this catalog.

Further information may be obtained in the Academic Advisement Office, Room 358, Little Hall.

SPECIALIZATION IN AUDIOLOGY AND SPEECH PATHOLOGY

A preprofessional academic/clinical program precedes the master's degree study which is accredited by the American Board of Examiners in Speech Pathology and Audiology. This program may be arranged through the College of Liberal Arts and Sciences or the College of Education. For admission to either program the student must consult a faculty adviser assigned by the Department of Speech (442 Arts and Sciences Building). Program requirements are described in the Speech Department section of this catalog.

To qualify for the Certificate of Clinical Competence in Audiology or in Speech Pathology awarded by the American Speech and Hearing Association or to obtain endorsement by the College of Education and the Department of Speech for State Department or Education certification in Speech Correction, it is necessary to complete a master's degree or equivalent.

Interested students should contact Dr. Thomas Abbott, Director of the Speech Clinic, 464 ASB.

SPECIALIZATION IN THE FINE ARTS

Music: Students interested in majoring in music should consult the faculty adviser, Professor James P. Hale, Music Building, as soon as possible in their college program.

The student who selects a major in Music must earn a total of sixty quarter hours in the following courses:

	Hours
Applied Music in approved courses numbered above 100	12
Theory of MUT 1111, MUT 1112, MUT 1113, MUT 1241, MUT 1242, MUT 1243, MUT 2116, MUT 2117, MUT 2118, MUT 2246, MUT 2247, MUT 2248	24
Survey of Music History, MUH 3211, MUH 3212, MUH 3213	12

Upon completion of the above courses, the student must select an area of concentration, i.e., Applied Music, Theory of Music or History and Literature, and earn twelve credits in that concentration. (These required twelve credits are in addition to those listed above and must be specifically approved for each student.) The student must also register for and participate each term in ensemble music groups.

A piano proficiency examination is required of all music majors. The student must take Piano Skills until he has met this requirement.

A Senior student concentrating in the area of Applied Music will present a Senior Recital. In the areas of Theory and History and Literature, the Senior will present a project which demonstrates his competence in his area of specialization.

For graduation with departmental honors in music, the student should apply to the chairman of the teaching faculty in his intended area of concentration at the beginning of his Junior year. In addition to the grade-point average requirement, the student concentrating in the area of Applied Music will present a Senior Recital which is adjudged by the music faculty as having reflected honors-level work in applied music in the upper division. The student in Theory of History and Literature must present an honors project in his specialized area. This project will be prepared in connection with twelve credit hours from Music Theory courses MUT 3611, 3612, 3321, 3322, MUC 3201, 3202, MUT 4411, 4421, or MUC 4301, MUL 3351, 3341, or from History and Literature courses, MUL 3362, MUH 3541, MUR 3401, MUH 3211, MUL 4371, MUL 4811, MUH 4331, MUL 4361, MUR 4801; and with the approval of the music faculty.

ART: The student who elects a major in Art must earn a total of not less than forty-five quarter hours including the following courses: (1) ART 1201C-ART 1203C, ART 1300C-ART 1301C, ARH 2050-ARH 2051-ARH 2052, a total of twenty-one hours; (2) a minimum of twelve additional quarter hours in a single field of specialization: Fine Arts; History of Art; or Crafts; and (3) ARH 4453, 4 hours.

Students should consult Dr. Robert H. Westin in planning a major program.

THEATRE: Students seeking Theatre as a major must earn a minimum of 45 credit hours in theatre courses. The specific individual program should be worked out in advance with Dr. E. James Hooks.

Transfer students must earn at least 18 credits in the department. Transfer credits will be evaluated in terms of their appropriateness to the degree requirements. In special cases, auditions or tests may be conducted.

Core Curriculum required of all B.A. candidates: ORI 2001 — Oral Performance of Literature; TPP 3110 — Acting 1; TPA 3200 — Stagecraft and Design 1; TPP 3650 — Play Analysis; TTP 3310 — Directing 1; TPP 3311 — Directing 2. Total: 24 credits.

Additional requirements: 1) Student must complete at least three of the two or three course sequences in Theatre

(excluding the 3310, 3311 Directing Sequence). 2) Student must complete at least eight credits in courses numbered 4000 or above.

Curriculum limitations: 1) Student may not earn more than eight credits in Acting. For B.A. candidates; Acting 1 and 2 (TPP 3110, 3111) will constitute a course sequence. 2) Student may not earn more than eight credits in Movement. For B.A. candidates, Movement 1 and 2 (TPP 3510, 3511) constitute a course sequence.

CERTIFICATE AND MINOR PROGRAMS

Other specialized programs in the College of Liberal Arts and Sciences are described in the following paragraphs. In certain of these programs, a certificate is awarded to the student upon (1) completion of a prescribed course of study and (2) recommendation of the program director and faculty. Such "certificate programs" are denoted by a boldface "C" immediately following the program title: **[C]**.

AMERICAN AREA STUDIES PROGRAM [C]

In addition to the major in American studies (see description under interdisciplinary studies in this section) the College of Liberal Arts and Sciences offers a certificate program for students majoring in a conventional discipline who wish to focus their work on America. The student fulfills the requirements for a departmental major, elects 36 credits from among American related courses, including those in his major field, and take AMS 2030, Introduction to American Studies; AMH 4041, Studies in American Civilization; and AMH 4935, Senior Seminar in American Civilization. Interested students are referred to Professor Stephen S. Conroy, 3350 GPA, for information and advisement.

ASIAN STUDIES PROGRAM [C]

In addition to its interdisciplinary degree-granting program of 40 hours in Asian Studies, the College of Liberal Arts and Sciences also offers a 20-25 hour certificate program for those undergraduate students who are interested in majoring in a particularized discipline but who wish either to (1) focus on Asia in their major or (2) develop another area of knowledge which will enrich and enhance their expertise in their chosen field. The course of study for the certificate may or may not include an Asian language, depending on the individual's needs and goals.

Special arrangements may be worked out between this College and others so that a wide variety of students may avail themselves of this opportunity.

Students desiring more specific information than that furnished above and in the description of Asian Studies in this catalogue (see "Departments of Instruction") should contact Dr. Irmgard Johnson, the Director (404 W. W. Little Hall), or any member of the Instructional Staff Major Committee.

LATIN AMERICAN STUDIES PROGRAM [C]

For students interested in Latin American area studies, the College of Liberal Arts and Sciences offers two options:

1. A special curriculum, based on a single departmental major (selected from the fields of Anthropology, Economics, Geography, History, Political Science, Sociology, and Spanish), leading to a B.A. degree and a Certificate in Latin American Studies. (See Latin American Studies section of this catalog); or

2. An individual interdisciplinary program, developed and coordinated through the Center for Latin American Studies and approved by the Interdisciplinary Committee of the College of Liberal Arts and Sciences, and leading to a B.A. degree. (See section on degree requirements for College of Liberal Arts and Sciences.

Through special arrangements, undergraduate students in the College of Business Administration, the College of Education, and the College of Journalism and Communications may participate in the above programs.

Interested students should contact Dr. Terry L. McCoy, 319 Grinter Hall.

SOVIET AND EAST EUROPEAN AREA STUDIES [C]

The College of Liberal Arts and Sciences offers to undergraduate students an integrated program in Soviet and East European studies. The program provides a broad foundation for those preparing for graduate work in the field and for those who plan a career in government service.

The program is based on a major in one of the following departments: Economics, Geography, History, Philosophy, Political Science, Religion, Foreign Languages. The student must demonstrate a reading knowledge of Russian or an East European language, and his over-all program must include at least 36 hours of work from the courses listed below. A maximum of 14 course hours within the major may be used in fulfilling the 36 hour area requirement.

Courses in the program include: ECS 4013, 4003, ECO 4905, 513, ECO 6306; EUH 3571, 3572, 3573, ECS 4334, HIS 4930, EUH 5934, 6339, 6320, POT 4414, CPO 4633, 4614, POS 4932, 4905, CPO 5636, 5065, 6637; POL 1120, 1121, 1122, 136, 427, POL 4905, 596; REL 3492; RUS 1120, 1121, 1122, 2200, 2110, 3240, 4300, 4840, 4700, 414, RUW 4100, 4101, RUS 4905, 5301, 5845, 5450, RUW 5120, 5121, RUW 5906; PHP 3765, or any other relevant courses dealing with the Soviet and East European area not listed above. Fifteen credits of German may also be accepted for students who are specializing in the German Democratic Republic or comparative communist systems.

All students interested in this program, including lower division students, should consult with Dr. Marvin Entner, Room 105 Grinter Hall or with Dr. James F. Morrison, Room 439 Grinter Hall.

AFRICAN STUDIES PROGRAM [C]

The African Studies Program is administered by an African Studies Center responsible for the direction and coordination of interdisciplinary instructional and research activities related to Africa. It cooperates with University departments, schools and colleges in administering and staffing a coordinated certificate program. The Center does not offer an interdisciplinary degree. With the cooperation of participating departments, it offers a certificate in African Studies in conjunction with the B.A., M.A. and Ph.D. degrees.

To receive a Certificate in African Studies in conjunction with the B.A. degree a student must: 1) take AFS 2002 Introduction to African Studies, HUM 2420 African Humanities, FOL 3730 Introduction to African Linguistics, AFS 4935 African Studies Senior Integrative Seminar; 2) three of the following: ANT 4352 Africa — Traditional Peoples and Cultures, GEO 4905 Geography of Africa, AFH 3100 Africa to 1800, AFH 3200 Africa Since 1800, HUM 2930 The Cultural Context of African Literature, CPO 3204 African Government and Politics; and 3) 11-12 credits of distribution requirements which may be met by courses with specific African content excepting SWA 1120. A list of approved courses for requirement 3) is available on request from the Center office.

For Certificate requirements at the M.A. and Ph.D. levels see the Graduate School Catalog. For further information on the Center's Certificate requirements, interdisciplinary majors based on African themes, and other related matters contact the Director, Center for African Studies, 470 Grinter Hall, University of Florida, Gainesville, Florida 32611.

AFRO-AMERICAN STUDIES PROGRAM [C]

An interdisciplinary program leading to a certificate in Afro-American Studies is offered by the College of Liberal Arts and Sciences. The program is designed to furnish students an inclusive knowledge of the historical experience and condition of peoples of African origin in America. Courses in the program are offered by a number of departments including Anthropology, Economics, English, History, Music, Political Science, and Sociology. In order to be awarded the certificate, the student must complete at least 36 credits from the courses offered, constructing in consultation with the program director a pattern of classes which best fits the student's needs. In addition, the student must complete a departmental major and fulfill the requirements

for graduation from the College of Liberal Arts and Sciences.

Requirements for the certificate include: (1) the core courses in Afro-American Studies, 12 credits: AFA 2000, Introduction to Afro-American Studies, 4; AFA 4936, Afro-American Studies Senior Integrative Study I, 4, which serves to identify and explore further issues in the Afro-American field; and AFA 4937, Afro-American Studies Senior Integrative Seminar, II, 4, which provides directed work on Afro-American research problems; (2) one or two courses from the curriculum in African Studies plus AFH 3100, Africa to 1800, 8-12 credits; and (3) electives from approved Program courses, 12-16 credits.

Additional courses in the program include ANT 4451 — Racial and Cultural Minorities; LIT 3321—Ethnic Literature; LIT 3342—Afro-American Literature; ECP 4143—Blacks in the American Economy; AFH 3100—Africa to 1800; AMH 4170—Slavery and the Civil War; AMH 4572—Reconstruction and Race Relations; AMH 4579—Colloquium, History of the Afro-American; AMH 4579—Problems in Afro-American History; MUH 4116—History of Jazz; MUH 4561—Music of Black Americans; PUP 4003—Issues in American Politics; PUP 4313—Minorities and Changes in American Politics; SOC 2020—Social Problems; SOC 3745—Minorities in American Society; SOC 4720—Black America: Current Problems.

For advice or information, students are invited to contact the program director, Professor R. C. Foreman, Jr., 3353 GPA.

WOMEN'S STUDIES PROGRAM **[C]**

The College of Liberal Arts and Sciences offers a Certificate Program in Women's Studies for interested undergraduate students. Students majoring in traditional disciplines are advised by a six-person Steering Committee which will plan and administer programs with a focus on the roles and potential roles of women.

The Program cooperates with other colleges and departments on campus to coordinate each student's major with her/his special interests, needs and projected future.

To receive a Certificate in Women's Studies a student is required to complete courses totaling 18-20 credits from a selection of Women's Studies courses offered by departments in Nursing, Economics, Psychology, Education, English, Humanities, Anthropology, Political Science, Black Studies, Philosophy, Physical Education, Behavioral Studies, etc. The required core course is WST 3010 (interdisciplinary Perspectives on Women — 4 credits) which is offered during the fall and spring quarters.

Interested students should contact Professor Irene Thompson, Program Director, in 4358 GPA, for further information.

WESTERN EUROPEAN STUDIES PROGRAM **[C]**

The College of Liberal Arts and Sciences of the University of Florida offers an undergraduate interdisciplinary program leading to the Certificate in Western European Studies. The program is designed for students interested in Western European culture, language, history, society, and politics. It should also be of value to students who wish to become European regional specialists or who are contemplating careers in such fields having to do with Western Europe as government service, international law, business or trade.

Each student works with an adviser in constructing a program of courses suited to his own specific interests, needs, and background. The student majors in the department of his choice but selects courses with Western European content from a number of the following departments involved in the program: Anthropology, Art, Economics, English, Geography, Germanic Languages and Literatures, History, Music, Philosophy, Political Science, Religion, and Roman Languages and Literatures.

In order to receive a Certificate in Western European Studies, a student is required (1) to complete courses totaling at least 36 credits (up to 15 of which may be from his major department) from among appropriate courses with Western European orientation in the participating departments; (2) to take a minimum of two courses from the European history sequence or to offer an equivalent substitute selected in consultation with program adviser; (3) to demonstrate a reading and speaking knowledge of a Western European language (this requirement may be satisfied either through course work or with a special examination; the same language may not, however, be offered simultaneously to meet the requirement of some other area study program); (4) to participate in EUS 4935, the interdisciplinary Western European Studies Seminar during Winter Quarter of his Senior year.

Students desiring further information about the program are urged to contact any member of the Western European Studies Committee: Dr. Harry W. Paul, 437 Grinter.

ENVIRONMENTAL STUDIES MINOR PROGRAM

A program for a minor (with certificate) in Environmental Studies is available for anyone with a major in the College of Liberal Arts and Sciences. The program is designed to be of interest to students concerned with environmental issues. Electives can be structured around an environmental theme, giving experience in an area that may expand career opportunities and make education more meaningful.

The course selection will serve to increase the student's knowledge of the interaction of man and his environment. A number of environmentally related courses requiring no prerequisites are included to help non-science majors become environmentally aware. Science majors will be able to relate their major discipline to current environmental problems through more advanced course work.

The Environmental Studies minor requires a minimum of 18 credits of approved environmentally oriented courses with at least one each from the Social, Physical and Biological Sciences to total 12 to 15 credit hours.

Courses required for the student's major cannot be counted toward the minor requirement. Courses both within and outside the College which bear on various aspects of environmental problems may be used for the minor and at the same time to fulfill the student's elective requirements. The Liberal Arts and Sciences limitation of 15 hours which may be taken for credit outside the College is waived for the Environmental Studies minor. An inventory file of approved courses for the Environmental Studies minor is available in 210 Bartram West.

Students interested in the minor should consult with their departmental adviser and the Environmental Studies Adviser in 210 Bartram Hall.

It is also possible to develop a major in Environmental Studies under the College's individual Interdisciplinary major program, where one is able to formulate a major from appropriate course areas in two or more departments. Students interested in an interdisciplinary major in Environmental Studies are referred to the interdisciplinary major description under the Liberal Arts and Sciences section of this catalog. Those interested in the major should contact Dean F. Eugene Dunnam, 2121 General Purpose A Building.

JEWISH STUDIES

Administered by the Center for Jewish Studies, this program provides an interdisciplinary and interdepartmental curriculum which serves as a basis for understanding the broad sweep of Jewish civilization. Through course work in various departments, including Religion, Foreign Languages, English and Philosophy, students may acquaint themselves with and specialize in areas within Jewish studies including Biblical Studies, Jewish history, Jewish philosophy and Jewish literature. It is expected that students in the program will demonstrate or acquire competence in Hebrew. The program may serve as preparation for graduate work in Jewish Studies, whether in a university or seminary setting.

The Jewish Studies program leads to the degree of Bachelor of Arts and requires completion of a departmental major. Working with advisers from the Center for Jewish Studies, students may construct individually oriented programs best suited to their needs, programs that take full account of previous preparation. Interested students should consult with Professors B. Mesch or S. Isenberg, Department of Religion.

STUDY ABROAD

For detailed information concerning study abroad, contact the office for the Council for International Studies and Programs at 168 Grinter Hall.

Study abroad programs now in effect at the University of Florida are open to students of other universities also, and include the following:

POZNAN, POLAND (EXCHANGE)

The UF has an exchange program with the Adam Mickiewicz University of Poznan, Poland. Within the framework of the program there are a number of opportunities for Florida undergraduates, graduate students, and faculty to spend from 3 to 12 months in Poland. Fellowships are available for graduate students (or exceptionally well qualified and highly motivated mature undergraduates) to spend 9 months studying or doing research in Poland.

A special 15 credit 8 week summer program of Polish language, history, politics and socialist economics is also available. Undergraduates may satisfy their language requirement by taking 15 credits intensive introductory Polish.

It is also possible for UF faculty to spend from one month to a year in Poland under the auspices of our exchange program, either lecturing (in English) or doing research, or both.

SALAMANCA, SPAIN

The UF has entered into an agreement with the University of Salamanca for UF students to study for the academic year, or a quarter during the academic year, in Salamanca, Spain. Spanish language and civilization are the basic subjects offered, though the student with a proficiency in Spanish can avail himself of more extensive studies. Orientation for the fall quarter is in Seville for undergraduates and graduates. Students live with Spanish families.

HAIFA-TEL AVIV, ISRAEL

The UF has entered into agreements with the University of Haifa and the University of Tel Aviv for students to study there. The program is especially designed for American students, and can commence with a ten week summer Ulpan during which the student studies Hebrew or an alternative program which begins with a ten week work-study Kibbutz program. Students may choose from a large selection of courses after that at either university for the full academic year. All courses are taught in English though the student is urged to continue to master the Hebrew language.

UTRECHT, THE NETHERLANDS (EXCHANGE)

The UF offers a foreign exchange program at the University of Utrecht in the Netherlands for faculty and graduate students. Highly motivated undergraduate students may be considered. The courses are offered in several disciplines and students are housed in dormitory-like clusters of ten rooms surrounding a social area and kitchen facilities.

BOGOTA, COLOMBIA

The UF has an agreement with with the Universidad de los Andes for a Spanish program. Language instruction is offered at the beginning, intermediate and advanced levels by qualified native speakers using advanced teaching techniques. Courses also consider various aspects of Colombian culture. Students live with Spanish families. The Universidad de los Andes is a private institution conveniently located in downtown Bogota, the capital of Colombia. For those students proficient in Spanish it is possible to stay at the Universidad for one or two semesters of additional study.

SUMMER PROGRAMS

In addition to the programs in Israel and Poland mentioned above, summer overseas study programs are available in several other countries. While most summer programs concentrate on the study of local language and culture, several offer a variety of other subjects. Individual program lengths vary from six to ten weeks; all of them satisfy UF summer residency requirements. Summer program locations presently include: Innsbruck, Austria; Rio de Janiero, Brazil; Bogota, Columbia; London, England; and Poros, Greece.

OTHER INTERNATIONAL COURSES

The University also offers interdisciplinary, international courses through support from the US Office of Education which are global in nature. Samples of the titles of these courses are:

Human Rights in the International Perspective

World Food and Population

Alternative World Futures

Cities of the World: Urbanization, Planning and the Quality of Life in an International Perspective

For details contact your faculty advisor or the Office of International Studies and Programs at 168 Grinter Hall.

ENGLISH LANGUAGE INSTITUTE

A full-time noncredit, nondegree program in English as a second language is available to foreign students with some knowledge of the language who wish to increase their competence. The program, which may be taken any of the quarters of the academic year, emphasizes the oral and written skills needed by students from abroad who plan to attend a university in the United States. Further information is available from Dr. Jayne C. Harder, Director, English Language Institute, 162 Grinter Hall, University of Florida, Gainesville, Florida 32611.

STUDENT COUNCIL

Of all types of student organizations on campus, few are concerned specifically with enhancing the academic and intellectual environment within the college community. The Liberal Arts and Sciences Student Council claims such concern. Composed of student representatives from each of the college's departments, the Council acts to initiate and promote effective two-way communication between students and faculty and administration. Further, it provides students an opportunity to creatively participate in the decision-making processes within the College through their role as an advisory body to the Dean.

In recent years, the areas of faculty-student interaction, student rights, teaching excellence, and quality of education have received special scrutiny by the Council. As a result, several ongoing programs have been established. To encourage and honor teaching excellence, the Council presents the annual Teacher of the Year Award. And for the protection and furthering of student rights a student grievance board has been made available. Many other projects are undertaken on a quarter-to-quarter basis such as bringing distinguished personalities-of-note to campus and the sponsoring of debates and seminars on a wide range of topics.

The Council's growth and effectiveness depends upon student involvement. Interested participants should contact the Student Council office, B-137 General Purpose A Building, or the Liberal Arts and Sciences Office.

SCHOOL OF
ACCOUNTING

The School of Accounting

GENERAL STATEMENT

The School of Accounting of the University of Florida was established July 1, 1977. The objective of the School of Accounting is to provide the technical and general education for graduates to assimilate the proficiency necessary to enter the accounting profession and progress rapidly through levels of increasing responsibility. The field of accounting offers outstanding opportunities in such areas as public accounting (financial/auditing), industrial accounting (cost/managerial/systems) nonprofit accounting and tax accounting.

The accountant deals with complex problems in the business world. This requires a thorough knowledge of business operations and the environment of business as well as accounting knowledge. In addition to the demanding technicals skills, an ability to communicate clearly in both verbal and written form is essential. The accountant interacts with people constantly and must develop interpersonal skills as well. Accounting is more of an art than a science and professional judgment is an important element in the practice of accountancy. Although accounting is unusually demanding and requires a high achievement motivation in order to succeed, the rewards are high.

The field of accounting for many years was primarily thought of as exclusively a man's domain. However, in recent years an increasing number of women have been entering the field and today the opportunities are substantial. This same opportunity exists for all minorities.

SCHOLARSHIPS AND ASSISTANTSHIPS

Information about general financial aid can be obtained from the Director of Student Financial Aid, University of Florida, Gainesville, Florida. Information concerning scholarships available specifically for fourth and fifth year accounting students can be obtained by writing to the School of Accounting, University of Florida, Gainesville, Florida.

HONORARY AND PROFESSIONAL ORGANIZATIONS

Beta Alpha Psi

This professional accounting fraternity has 115 chapters nationally. Upsilon Chapter was the 18th chapter to be founded (in 1938) and is recognized as one of the best chapters in the country. An active professional program is conducted each year including guest speakers, panel discussions, field trips, and other activities designed to promote professional awareness. Beta Alpha Psi cosponsors the Graduate Accounting Conference which annually attracts more than 100 accounting practitioners. Membership requirements include high ethical standards and a minimum grade point average. Additional information concerning these requirements may be obtained from the School of Accounting.

Beta Gamma Sigma

Election to this national business honorary society is based on scholarship and character. For additional information apply to the Office of the Dean, College of Business Administration.

ACCOUNTING RESEARCH CENTER

The Accounting Research Center was organized in 1976 to sponsor and encourage both frontier-seeking research and research that has immediate benefit to the profession. The Center provides an opportunity for graduate students to become involved in specific research projects on a regular basis. Occasionally research projects provide a similar opportunity for undergraduate students. The Center publishes research results in a working paper series. For information contact the Director of the Accounting Research Center, School of Accounting, University of Florida, Gainesville, Florida.

PROGRAM OF STUDY

Graduates of the undergraduate program will receive the degree Bachelor of Science in Accounting. The undergraduate accounting program is highly structured in order to provide students with a working knowledge of the basic accounting framework and each of the different professional areas of accounting in addition to the underlying business and related disciplines.

The widespread range of subjects necessary for the adequate preparation of an individual preparing for a professional career in accounting does not leave room for specialization within the undergraduate accounting program. National agencies such as the American Institute of Certified Public Accountants' Board on Standards for Programs and Schools of Professional Accounting and the American Accounting Association Education Committee recommend a five year program of study. Students are urged to consider the five year professional program leading to the degree Master of Accounting. Details concerning the five year program including the specialization areas of financial/auditing, managerial/cost, systems and tax are included in the *Graduate School Catalog* which can be obtained by writing the Director of Admissions, University of Florida, Gainesville, Florida. Additional information can also be obtained by contacting the School of Accounting, University of Florida, Gainesville, Florida.

REQUIREMENTS FOR ADMISSION

The University of Florida and the School of Accounting encourages applications from qualified students from all cultural, racial, religious, and ethnic groups. Listed below are the specific requirements for admission to this School. It should be understood however that minimum requirements are given and that admission to this School is a selective process. The satisfaction of minimum requirements does not automatically guarantee admission. A student's total record including educational objective, pattern of courses previously completed, quality of previous academic record, and test data will all be considered in evaluating an application for admission. Priority in admission will be given to those applicants whose potential on the basis of their total record indicates the greatest likelihood of success in the program requested.

Students Classified UF: To be eligible for admission to the School of Accounting, a student classified UF must have completed at least 18 quarter credits of preprofessional courses. Acceptance to the School of Accounting will be based upon the grade point average earned and prerequisite courses completed.

Transfer Students: To be eligible tor admission to the School of Accounting, a transfer student must satisfy the minimum requirements for admission that are set forth in the transfer admissions section below. Additionally, the applicant should complete, as far as possible, the courses required for the desired curriculum as indicated in the program for the Freshman and Sophomore years in the College of Liberal Arts and Sciences section. A minimum of 18 quarter credits of preprofessional courses must be completed prior to admission to the School of Accounting. Completion of these courses and receipt of an AA degree does not guarantee acceptance to the School of Accounting. Acceptance to the School of Accounting will be based upon prerequisite courses completed and the student's earned grade point average.

A. Students attending four year colleges, who wish to transfer after two years, should follow a program of general education and preprofessional courses similar to the Basic Curriculum for the Freshman and Sophomore years for students desiring to enter the School of Accounting which is outlined in the College of Liberal Arts and Sciences section of this catalog. Prerequisite courses in business subjects during the first two years should be completed as indicated in paragraphs B.3 and B.4 below. Courses should not be taken during the first two years which are offered only at the upper division level at the University of Florida.

B. Junior College and Community College students should:

1. Complete the university transfer program at the junior college.
2. Complete the general education requirements established for the junior college.
3. Complete, insofar as possible, all of the following courses which are prerequisite to any advanced professional work in the School: an introductory course in accounting, a one-year sequence in economics, a one-year sequence in analytical geometry and calculus, an introductory course in statistics, an introductory course in EDP, a course in logic.
4. Complete the one-year courses in analytical geometry and calculus and in economics at the junior college. Differences in the order of presenting material in basic one year courses make it highly undersirable to take parts of such courses in different institutions.
5. Choose elective courses needed to complete the total 64 semester hours in the university transfer program from such areas as mathematics, natural sciences, social science, foreign language, and humanities.
6. Avoid professional coursework that is available at the University of Florida only as 3rd and 4th year courses. TRANSFER STUDENTS ARE ADVISED TO AVOID SUCH COURSES AS BUSINESS LAW, PRINCIPLES OF MARKETING, PRINCIPLES OF MANAGEMENT, PRINCIPLES OF INSURANCE, PRINCIPLES OF REAL ESTATE, PERSONNEL MANAGEMENT, AND COMPUTER MANAGEMENT COURSES. A maximum of six quarter credits may be allowed for courses taken during the first two years which are available only as third and fourth year professional courses in the College of Business Administration at the University of Florida.

Any credit granted for such work will be in the form of undistributed elective credit without reference to specific courses taken. In no case may such courses be in accounting. In the case where a student wishes to waive an upper division core course and substitute a community college course, waivers may be granted on an individual basis but the student will be required to take another course in the area being waived. The course will be specified by the Department Chairman of the area.

Provisional Admission: Within space limitations, students who do not meet precisely the admission requirements indicated in the appropriate section above may be granted provisional admission to the School of Accounting. The Director of the School of Accounting will specify the courses to be completed and minimum grade points to be earned by the student during the term of his provisional admission. Provisional status will be removed and the student fully admitted to the School of Accounting provided he fulfills the conditions set forth in his provisional admission. The student will be excluded from further enrollment in the School of Accounting if he fails to satisfy the conditions of his provisional admission.

GENERAL REGULATIONS

STUDENT RESPONSIBILITY: The student must assume full responsibility for registering for the proper courses and for fulfilling all requirements for his degree. He is also responsible for completing all courses for which he is registered.

Courses may be dropped with advisor approval until the end of the first week of the quarter without petitioning. After the first week courses may be dropped or changed without penalty only through the administrative office of the School (by petitions) and the Registrar.

Seniors must file formal application for a degree in the Office of the Registrar early in the quarter in which they expect to receive the degree. The official calendar shows the latest date on which this can be done.

NORMAL LOADS: The average course load in the School of Accounting is 15 credit hours. A student may be permitted to register for additional hours if in the opinion of his academic adviser, his academic record justifies this. Students who wish to take less than 12 hours should be aware that certain university privileges and benefits require a minimum registration. It is the student's responsibility to verify the minimum registration necessary for these benefits.

RESIDENCE: The last 45 quarter hours to be applied toward a degree must be completed in residence in the School of Accounting. In special cases this requirement may be waived if the student has a 2.9 average or better, and his petition to take non-resident work has been approved in advance by the faculty of the School. In any case, no student may take more than nine quarter credit hours by extension or correspondence amount among the 97 quarter credits of upper-division work required for the baccalaureate degree; and such work must have prior approval for each individual student by the Petitions Committee of the School. However, accounting courses may not be taken by extension, by correspondence, or at another university for transfer.

SATISFACTORY-UNSATISFACTORY GRADE OPTION: An undergraduate student in the School of Accounting may take on the S-U basis only those courses which will be counted as free electives in fulfilling the requirements for his degree.

PROBATION AND SUSPENSION: Students who do not make satisfactory academic progress may be excluded from further registration.

GRADUATION REQUIREMENTS: To receive the degree Bachelor of Science in Accounting a student must satisfactorily complete the following:

1. 96 quarter hours of lower division requirements.
2. An approved program in accounting.
3. Upper division core courses.
4. Elective requirements.

A minimum of 193 quarter hours is required for graduation. The waiving of any required course does not reduce the hours required for graduation. A student must maintain an overall average of 2.0 and a 2.0 average on all courses which count toward his or her upper-division degree requirements. A 2.0 average must also be maintained for all upper-division accounting courses.

DEAN'S LIST AND GRADUATION WITH HONORS OR HIGH HONORS:

A student who carries 14 hours per quarter with a grade point average of 3.5 will have his name placed on the Dean's list for that quarter.

To graduate *With Honors*, a student must make at least a 3.2 average on all course work accepted as Upper Division credit and all course work (except as noted below) attempted while registered in the Upper Division. To graduate *With High Honors*, a student must make at least a 3.6 average on all work accepted as Upper Division credit and all course work (except as noted below) attempted while registered in the Upper Division. In calculating requirements for graduating *With Honors* or *With High Honors*, the following policies are followed: the student must have completed at the University of Florida at least 60 quarter hours for Upper Division credit toward a degree in Accounting, transfer credits and S-U grade credits will be excluded; and credits for Lower Division courses taken while registered in the Upper Division will be excluded.

SCHOOL OF ACCOUNTING

GRADUATE DEGREES AND ADMISSION TO GRADUATE WORK

Courses are offered in the School of Accounting leading to the degree of Master of Accounting. For requirements for these degrees and for admission to Graduate School, consult the *Graduate School Catalog*.

CURRICULUM

The upper division curriculum in Accounting requires 97 quarter credits.

UPPER DIVISION REQUIREMENTS

Required Nonaccounting Courses:

	Credits
QMB 3700 Quantitative Methods for Business and Economic Analysis	5
MAN 3010 Principles of Management	4
MAR 3023 Principles of Marketing	4
FIN 3403 Business Finance	4
COP 3120 Introduction to COBOL Programming	4
ECO 3251 National Income Determination and Policy	5
ECO 3100 Prices and Markets	3
BUL 4112 Business Law	5
Total	34

Required Accounting Courses:

	Credits
ACC 3123 Financial Accounting 2	4
ACC 3143 Financial Accounting 3	4
ACC 3401 Cost and Management Accounting 1	4
ACC 3421 Cost and Management Accounting 2	4
ACC 4501 Federal Income Tax Accounting 1	4
ACC 4602 Auditing Theory and Internal Control 1	4
ACC 4741 Information Systems for Management Planning and Control	4
Total	28

Electives: A maximum of 9 credits of advanced military science may be counted for elective credit. One accounting course may be counted for elective credit. 35

Total 97

College of Agriculture

AGRICULTURAL AND EXTENSION EDUCATION
AGRICULTURAL ENGINEERING
(See College of Engineering)
AGRONOMY
ANIMAL SCIENCE
BOTANY
DAIRY SCIENCE
ENTOMOLOGY AND NEMATOLOGY
FOOD AND RESOURCE ECONOMICS
FOOD SCIENCE AND HUMAN NUTRITION
SCHOOL OF FOREST RESOURCES AND CONSERVATION
FRUIT CROPS
MECHANIZED AGRICULTURE
MICROBIOLOGY AND CELL SCIENCE
ORNAMENTAL HORTICULTURE
PLANT PATHOLOGY
PLANT SCIENCES—GENERAL
POULTRY SCIENCE
SOIL SCIENCE
STATISTICS
VEGETABLE CROPS

College of Agriculture

The aim of the College of Agriculture is to provide students with the best education possible for service in agricultural business, technology, and science.

The departments in the College are: Agricultural and Extension Education, Agricultural Engineering, Agronomy, Animal Science, Dairy Science, Entomology and Nematology, Food and Resource Economics, Food Science and Human Nutrition, Fruit Crops, Microbiology and Cell Science, Ornamental Horticulture, Plant Pathology, Poultry Science, Soil Science, Vegetable Crops, and Veterinary Science. Degree programs are available through the College of Agriculture in Botany and Statistics departments administered in the College of Liberal Arts and Sciences. The School of Forest Resources and Conservation is a specialized faculty within the College of Agriculture.

REQUIREMENTS FOR ADMISSIONS

The University of Florida and the College of Agriculture encourage applications from qualified students from all cultural, racial, religious, and ethnic groups. Listed below are the specific requirements for admission to this college.

Any student with a UF classification who has finalized his decision to study Agriculture may apply for admission to the College of Agriculture after completing one quarter in the College of Liberal Arts and Sciences.

To be eligible for admission students must have a minimum of a C average on all work completed and have demonstrated by selection of preprofessional courses their intent to pursue a program in agriculture.

Transfer Students: To be eligible for admission to the College of Agriculture, a transfer student must satisfy the minimum requirements for admission to an Upper Division College that are set forth in the ADMISSIONS Section of this catalog. Additionally, the applicant must satisfy the following specific requirements for consideration by the College of Agriculture: (1) Complete the courses required for the desired curriculum as indicated in the program for the Freshman and Sophomore years at the University of Florida and, (2) pass all required preprofessional courses with a minimum grade of C. The following conditions will serve as a guide in expediting transfer to the College of Agriculture in compliance with the above requirements. In the event enrollment quotas become necessary because of limited space or teaching resources, selection of those admitted will be on the basis of past academic performance.

A. Students attending four-year colleges, who wish to transfer after two years, should follow a program of general education and preprofessional courses similar to the Basic Curriculum for the Freshman and Sophomore years for students planning to enter the College of Agriculture as outlined in the Lower Division section of this catalog.

B. Junior College students should:

1. Complete the two-year college parallel program at the junior college.

2. Satisfy the general education requirements established for the junior college.

3. Complete a program of chemistry through qualitative analysis and mathematics through college algebra and trigonometry.

4. Complete basic courses in biology or botany and zoology.

5. Complete a course in general economics.

6. Complete a course in general physics.

7. Choose elective courses in fulfilling the required total hours in the college-parallel program from the areas of speech, journalism, English, and the basic sciences. Speech and journalism are considered preprofessional requirements for students majoring in Agricultural and Extension Education.

8. Avoid specialized professional courses. Professional courses can be taken to much better advantage after the student has acquired the appropriate background in general education and basic science courses.

Special post-baccalaureate student (6AG): A student who has received a baccalaureate degree but who is not seeking admission to Graduate School may be admitted under certain circumstances as a special student. Examples of these circumstances are:
a) to receive a second baccalaureate degree
b) satisfy requirements for a second major
c) take basic requirements for admission to Graduate School and
d) to complete courses for information only.

Admission requirements are the same as for transfer students. In addition, post-baccalaureate students must comply with College and University rules and regulations and meet all deadlines as printed in the catalog for undergraduate students.

BACHELOR OF SCIENCE IN AGRICULTURE BASIC CURRICULUM

In addition to the 96 credits required for entrance to the College of Agriculture, 96 credits must be earned in the College of Agriculture curriculum for a combined total of 192 credits required for the Bachelor of Science in Agriculture degree.

In addition, students must have a 2.0 grade point average both in Upper Division and all credits attempted at the University of Florida. The following curriculum to all areas of agriculture designates specific requirements and electives for the degree Bachelor of Science in Agriculture. Some of these courses may be taken as electives in the Lower Division. It is especially important that students in junior colleges, planning to transfer to the College of Agriculture, select courses from the core requirements as electives.

Curriculum — College of Agriculture — 96
Core Requirements — 8 Credits

Courses	Credits
Communications	8

Electives—selected from SPC 3601, ENG 3343, 3351, 4356 and AGG 4603

Other Requirements and Electives—88 Credits

Requirements and electives in student's major department	min. 20—max. 40
Other requirements, free and approved electives	48-68

PRACTICAL WORK EXPERIENCE

By prior arrangement with individual Department Chairmen and approval of the Dean, students may, during their upper division course of study, receive credit for practical work under competent supervision in any recognized and approved agricultural or related pursuit relevant to their college program. Credit is normally earned at the rate of one credit per month of full-time work and may not exceed a total of four in any combination of experiences. A formal written report must be submitted before a grade (S-U) will be issued.

Departments offering this option have listed the course number 4941 in their catalog listing courses. Guidelines are available from the College and individual departments, establishing minimum criteria for credit eligibility and performance.

DEAN'S LIST AND GRADUATION WITH HONORS OR HIGH HONORS

A student who carries 15 hours per quarter with a grade point average of 3.3 or better and no grade less than C in any

course will have his name placed on the Dean's list for that quarter.

Students completing the requirements for the B.S. in Agriculture degree are eligible to be considered for graduation with Honors or High Honors.

To graduate with Honors a student must have a University of Florida Upper Division grade point average of 3.5, or above. (For purposes of honors the University of Florida Upper Division courses are defined as all courses taken at this University after the student has earned 96 credits, wherever taken.)

To graduate with High Honors the same requirements apply as for Honors except that the grade point average must be 3.75 or above.

GRADUATE TRAINING IN AGRICULTURE

The College of Agriculture offers four advanced degrees: Master of Agriculture, Master of Science, Master of Agricultural Management and Resource Development, and Doctor of Philosophy.

Students contemplating graduate study should consult with their adviser as early as possible to insure proper program planning.

SPECIAL PROGRAMS

SCIENCE, TECHNOLOGY, AND BUSINESS

Students in agriculture may specialize in one of three broad areas of knowledge—Agricultural Science, Agricultural Technology, and Agricultural Business, all within the framework of 192 credits for the degree Bachelor of Science in Agriculture.

For a specialization in Agricultural Science at least 18 credits of the 192 total are required in one or more of the areas of the Physical (CHM, GPY, PHY) and Biological Sciences (BSC, BOT, ENY, PLP, AGR) and Mathematics (MAC), in addition to those required in the Lower Division.

For program in Agricultural Technology a choice of courses in applied agriculture is planned by the separate departments of the College of Agriculture in areas of the student's special interest.

For Agricultural Business Specialization at least 20 credits of the 192 total required must be completed from the areas of Food and Resource Economics (AEB) and Business Administration (ACC, ECO, FIN, MAN, MAR), in addition to those required in Lower Division plus a departmental major.

The academic adviser of the department in which the student majors will assist the student in arranging his course of study, and make necessary recommendations to the Dean. The student's courses for each quarter are subject to the approval of the Dean and the Department Chairman.

TROPICAL AGRICULTURE

A program for a specialization (with certificate) in Tropical Agriculture for undergraduate and graduate students in the College of Agriculture is available. The program provides course selection to broaden the normal degree requirements for those interested in specializing in Tropical Agriculture. Students enrolled in any one of the existing major programs in the College of Agriculture may pursue this specialization.

The Certificate in Tropical Agriculture specialization will include courses from four basic groups as follows: Area Studies, International Economics, Tropical Ecosystems, and Tropical Agriculture. A total of at least 20 quarter credits from courses which relate to non-U.S. tropical areas of the world is required from Area Studies, International Economics and Tropical Ecosystems with at least 4 credits from each category. In addition, a minimum of 20 credits from Tropical Agriculture courses related to production of agricultural commodities in tropical areas of the world is required.

The courses required for this specialization will be determined by the student in consultation with a departmental adviser from an approved list of courses as indicated in the Tropical Agriculture Specialization guidelines. In most cases the requirements may be met through a wise choice of electives. Students interested in this specialization should consult their departmental adviser.

A certificate program for non-agriculture students desiring to broaden their major program with courses relating to Tropical Studies with an emphasis in Agriculture is also available.

The Certificate in Tropical Studies will require 20 quarter credits in courses from the three basic groups: Area Studies, International Economics, and Tropical Ecosystems and a minimum of 15 credits from Tropical Agriculture courses.

The courses required for this Certificate will be determined by the student in consultation with a departmental adviser and approved by the Dean of the College of Agriculture. Students interested in this program should consult the Dean of Agriculture.

The departments or disciplines from which courses may be selected are listed below. The specific courses as well as all details of the program are given in a Tropical Agriculture Specialization guideline statement to be used by departmental advisers.

Area Studies
Anthropology
Education
Geography
History
Journalism
Latin American Studies
Law
Political Science
Sociology
Others as appropriate

International Economics
Economics
Food and Resource Economics
Marketing
Others as appropriate

Tropical Ecosystems
Agronomy
Biological Sciences
Botany
Forestry
Zoology
Others as appropriate

Tropical Agriculture
Agricultural Engineering
Agronomy
Animal Science
Entomology
Food and Resource Economics
Fruit Crops
Ornamental Horticulture
Plant Pathology
Soil Science
Vegetable Crops
Veterinary Science
Others as appropriate

PEST MANAGEMENT AND PLANT PROTECTION

Students in the Pest Management and Plant Protection Specialization will receive instruction in the principles of Entomology, Nematology, Plant Pathology, and Weed Science. An understanding of the component parts of the crop-plant ecosystem as related to management of all groups of pests through the application of biological, chemical, and integrated systems compatible with a quality environment will be provided.

Students who select the Pest Management and Plant Protection Specialization will major in one of the following programs in the College of Agriculture: Agronomy, Entomology and Nematology, Fruit Crops, Ornamental Horticulture, Plant Pathology, Plant Sciences, or Vegetable Crops. Stu-

dents who complete the requirements for the Bachelor of Science degree with this specialization should find many employment opportunities in agri-business enterprises or government agencies concerned with plant pest management, crop production, and environmental protection. Moreover, the successful completion of this undergraduate program will place the student in an excellent competitive position as a candidate for graduate studies in any one of the departments cooperating in the undergraduate major program at the University of Florida or any other university.

Interested students should contact an academic adviser in his/her department and must indicate (register) with the chairman of the interdisciplinary committee on Systems of Pest Management and Plant Protection. The following required courses should be completed in addition to the major program requirements. The requirements of this specialization can usually be met through the course requirements of the major program and a wise choice of electives within the 192 credits required for the Bachelor of Science in Agriculture.

	Credits
PMA 3010 Fundamentals of Plant-Pest Management	3
PMA 3931 Seminar in Basic Plant-Pest Management	2
PMA 3941 Internship in Plant-Pest Management	3
PMA 4401 Systems of Pest Management and Plant Protection	3
PMA 4402L Laboratory Exercises in Pest Management	2
PLS 2031 Fundamentals of Crop Production	4
ENY 3005 Principles of Entomology	3
ENY 3006L Principles of Entomology Laboratory	2
ENY 3701 Principles of Nematology	4
PLS 4601 Weed Science	4
PLP 3002 Lectures in Basic Plant Pathology	2
PCB 3033 Introduction to Ecology	5
BOT 3503C Elementary Plant Physiology	4
BOT 3503L Elementary Plant Physiology Laboratory	2
BCH 3023 Elementary Organic and Biological Chemistry	5
SOS 3022 General Soils	5
AGR 3303 Genetics	5

CERTIFICATE MINOR IN ENVIRONMENTAL STUDIES

A program for a minor (with certificate) in environmental studies has been developed. The program provides course selection to obtain a broad knowledge of the environment, especially the inter-relationships between the activities of man and environmental quality. Students enrolled in one of the existing major programs in the College of Agriculture and for this minor will learn to apply their major discipline to the solution of environmental problems.

The environmental studies minor will include environmental courses in three basic groups as follows: biological sciences, physical sciences, and social sciences. At least one course from each of these three groups is required. A minimum of 18 quarter hours credit is required for the minor. Courses required for the major cannot be counted toward the minor requirement. A minimum of three hours outside the College of Agriculture is required

The courses required for this minor will be determined by the students in consultation with their departmental adviser from an approved list of courses prepared by the department, the College of Agriculture and the University. In most cases these requirements may be met through a wise choice of electives. Students interested in this minor should consult their departmental adviser.

PRE-VETERINARY MEDICINE

The College of Veterinary Medicine, University of Florida, admits a limited number of students each fall for the pursuit of a degree Doctor of Veterinary Medicine. The following courses must be completed with no grade less than C and a minimum grade point average of 2.75.

	Quarter Credits
BSC 2010C, Organismic Biology; BSC 2011C, Molecules and Cells; BSC 2012C, Population and Communities	12
Microbiology (MCB 3020-3020L)	5
Genetics (AGR 3303 or PCB 3063 and PCB 3653L	5-6
Chemistry:	27
Inorganic Chemistry (General and Qual.); lecture and laboratory (CHM 2040, 2041C, CHM 2042C AND CHM 2043C; or CHM 2045C, CHM 2046C, CHM 2047C)	12-16
Organic Chemistry; lecture and laboratory (CHM 3210, 3210L; CHM 3211-3211L)	10
Analytical Chemistry I (CHM 3120)	4
Analytical Chemistry I Laboratory (CHM 3120L)	2
Physics (PHY 2050, PHY 2051, PHY 2050L, PHY 2051L)	10
Mathematics: Calculus* (MAC 3311)	5
Animal Science:	
Introduction to Animal Science (ASG 3003)	5
ASG 3403 Principles of Animal Nutrition	3
ASG 3404 Applied Animal Nutrition	3
Humanities (HUM 2210; HUM 2230; HUM 2250, 2410 or 2420	12**
Social Science (SSI 2110, SSI 2120, 2122, 2121, 3127, SSE 2221, 2201, or SS 3227)	9
English (ENG 1102; Comprehensive English; ENG 1200; ENG 1400 or ENG 1710	9
Electives	17-20
(e.g., Agriculture, Computer Science, Economics, Humanities, Journalism, Political Science, Psychology, Social Sciences, Statistics, etc.)	Total 120

*Trigonometry and Algebra at the high school or college level are required for admission to courses in Calculus.

**Nine quarter credits will be accepted if taken as a requirement for an Associate of Arts degree.

Because of the rigid course requirements, most students require somewhat more than two years to complete this curriculum. Also, since admission to Veterinary School is competitive, students usually need to make considerably more than the minimum grade point average of 2.75.

Pre-veterinary students should consult the Dean of the College of Agriculture before registering for the pre-veterinary curriculum.

Residents of Florida who will have completed the pre-veterinary requirements in June of the year that entrance into the College of Veterinary Medicine is desired in the Fall, and who wish to be included in the State's list of eligibles, should contact the Dean of the College of Veterinary Medicine.

AGRICULTURAL ENGINEERING

BACHELOR OF SCIENCE IN ENGINEERING (Agricultural Engineering)

The Agricultural Engineering curriculum is offered cooperatively by the College of Agriculture and the College of Engineering. Students in this major receive basic training in engineering and agriculture so that they are prepared to solve the specialized and unique engineering problems of agricultural production and processing systems and the management and conservation of agricultural land and water resources. Since engineering problems in agriculture relate to biological production and processing of biological products, training in agricultural and biological courses is obtained. Students desiring careers in Agricultural Engineering will register in the College of Engineering. See College of Engineering for curriculum.

AGRICULTURAL AND EXTENSION EDUCATION

The Agricultural and Extension Education curriculum is designed to prepare students for careers in agricultural education and the cooperative extension service. Students majoring in this department have a common core curriculum which combines courses in technical agriculture, professional education, and/or extension methodology. The de-

partment chairman or one of the departmental advisers will advise students majoring in this department in the selection of electives and requirements to meet the students' career goals.

Students wishing to enroll in AEE 4942 "Agricultural and Extension Education Practicum" (student teaching) must meet the following criteria:

1. Advanced senior standing.
2. Completion of EDF 4210 or equivalent, speech and 16 hours of professional education in agricultural education.
3. A "C" average (2.0) or better.
4. A "C" average (2.0) or better, in all professional education courses required in the area of specialization.
5. Grades of less than "C" in Agricultural Education courses will not be accepted.

Assignment to a student teaching center is an involved process and is not taken lightly. Every consideration is given to student requests. However, applicants are specifically *NOT* guaranteed assignment to their home county, to the immediate and general vicinity of the campus or to a given school on request. Assignments will be made only to those centers indicated at time of application. Submission of an application by a candidate constitutes an agreement to accept assignment in the school and county where it is determined that the objectives of the student teaching program can best be achieved. Failure to accept an assignment negotiated by Department personnel relieves the Department of any further responsibility to provide student teaching experiences and courses for the candidate.

The student completing this program will be required to satisfy the College of Agriculture core curriculum requirements.

Departmental Requirements - 42 credits

	Credits
*AEE 3323 Development and Philosophy of Agricultural Education	4
*AEE 3200 Instructional Techniques in Agricultural Education	4
*AEE 4S04 Organization of Agricultural Education Programs	4
*AEE 4224 Special Methods in Teaching Vocational Agriculture	4
*AEE 4227 Laboratory Practices in Teaching Agricultural Education	4
*AEE 4942 Agricultural and Extension Education Practicum	2-12
AEE 4943 Agricultural Extension Practicum	2-12
*EDF 4210 The Adolescent (or equivalent)	5
AEE 4624 Career & Prevocational Education in Agriculture	4
AEE 3313 Development and Role of Extension Education	4
*AEE 4424 Agricultural Youth Programs	4
AEE 4906 Individual Work in Agricultural and Extension Education	1-8

*Other Requirements and Electives - 54 Credits***

	Credits
MAG 3220 Agricultural Mechanics I	4
MAG 422S Agricultural Mechanics II	5
AEB 3133 Farm Firm Management	5
ASG 3003 Introduction to Animal Science	5
AGR 3210 Field Crop Science	4
or	
AGR 4231 Forage and Pasture Science	5
SOS 3022 General Soils	5
ENY 300S Principles of Entomology	3
ENY 3006 Principles of Entomology Laboratory	2
ORH 3813 Introduction to Residential Landscape Horticulture	3
***Electives in Agriculture	17-18

*The student planning to qualify to teach in the public schools will complete a minimum of 42 quarter hours from the above list of professional courses. The courses indicated by an asterick (*) are required.

**Substitutions must be approved by the Chairman of Agricultural and Extension Education.

***To be planned by department advisers.

AGRONOMY

(See Plant Sciences)

ANIMAL SCIENCE

The curriculum in Animal Science meets the educational requirements for the Bachelor of Science degree. Animal Science is designed to give students a foundation in the basic sciences and fundamental training in the various phases of the beef cattle, swine, horse, sheep and meat industries. Early in their college planning, students should discuss the programs and their implications with the Department Chairman or his counseling representatives.

	Credits
College of Agriculture Communications Requirements	8
Departmental Requirements	28
Other Requirements and Electives	60
Total	96

Departmental Requirements

ASN 3007 Principles of Livestock Production	4
ASG 3113 Principles of Animal Breeding	5
ASG 3403 Principles of Animal Nutrition	3
ASG 3404 Applied Animal Nutrition	3
ASN 4634 Meats	4
ASG 4931 Seminar	1

Minimum of 8 additional Department Credits selected from the following courses:

ANS 4234 Horse Enterprise Management	4
ANS 4244 Beef Cattle Enterprise Management	5
ANS 4264 Swine Production	3
ANS 4274 Sheep Production	2
ANS 4614 Livestock and Carcass Evaluation	3

Other Requirements and Electives

AEB 3133 Farm Firm Management	5
AGR 3303 Genetics	5
AGR 4231 Forage and Pasture Science	5
BCH 3023 Elementary Organic and Biological Chemistry	5
MCB 3020 Basic Biology of Microorganisms	3
MCB 3020L Microorganisms Laboratory	2
SOS 3022 General Soils	5
VES 3202C Anatomy and Physiology	5
Free Electives	25

Students are encouraged to elect additional courses in Science, Technology, Economics and Business relating to a career interests.

BOTANY

A major in botany is offered through the College of Agriculture. Students should consult with the Undergraduate Coordinator for curriculum. (See Botany, College of Liberal Arts and Sciences for course listing.)

DAIRY SCIENCE

The two curricula give broad foundations in science and technology of the dairy industry. Students should consult with the chairman or departmental adviser for assistance in choosing the curriculum and selecting electives.

CURRICULUM I — DAIRY SCIENCE

This is designed primarily for students interested in dairy production, pre-veterinary medicine or post-graduate study.

College of Agriculture Core Requirements — 8 Credits

Departmental Requirements—26 Credits

	Credits
DAS 3211 Dairy Cattle Management	4
ASG 3403 Principles of Animal Nutrition	3
ASG 3404 Applied Animal Nutrition	3
DAS 4411 Dairy Cattle Nutrition	4

COLLEGE OF AGRICULTURE

DAS 4510 Physiology of Lactation or ASG 4334 Reproduction in Farm Animals 4

Minimum of 8 additional Departmental Credits selected from the following courses:

	Credits
DAS 3214 Dairy Cattle Evaluation	2
DAS 4213 Dairy Management Techniques	1-4
DAS 4510 Physiology of Lactation	4
DAS 4614 Dairy Technology	5
DAS 4905 Problems in Dairy Science	1-4
DAS 4941 Practical Work Experience in Dairy Science	1-4
ASG 4334 Reproduction in Farm Animals	4
ASG 4992 Dairy Judging	1-2

Other Requirements and Electives—62 Credits

	Credits
AEB 3133 Farm Firm Management	5
AGR 3303 Genetics	5
AGR 4231 Forage and Pasture Science	5
ASG 3003 Introduction to Animal Sciences	5
ASG 3313 Principles of Animal Breeding	5
BCH 3023 Elementary Organic & Biological Chemistry	5
MCB 3020 Basic Biology of Microorganisms	3
MCB 3020L Basic Biology of Microorganisms Laboratory	2
SOS 3022C General Soils	5
VES 3202C Anatomy & Physiology of Domestic Animals	5
Electives	17

CURRICULUM II — DAIRY MANAGEMENT

This is designed primarily for students interested in managing dairies or dairy enterprises, or careers in allied agribusiness.

College of Agriculture Core Requirements — 8 Credits

Departmental Requirements—26 Credits

DAS 3211 Dairy Cattle Management	4
ASG 3403 Principles of Animal Nutrition	3
ASG 3404 Applied Animal Nutrition	3
DAS 4411 Dairy Cattle Nutrition	4
DAS 4510 Physiology of Lactation or ASG 4334 Reproduction in Farm Animals	4

Minimum of 8 additional Departmental Credits selected from the following courses:

	Credits
DAS 3214 Dairy Cattle Evaluation	2
DAS 4213 Dairy Management Techniques	1-4
DAS 4510 Physiology of Lactation	4
DAS 4614 Dairy Technology	5
DAS 4905 Problems in Dairy Science	1-4
DAS 4941 Practical Work Experience in Dairy Science	1-4
ASG 4334 Reproduction in Farm Animals	4
ASG 4992 Dairy Judging	1-2

Other Requirements and Electives—62 Credits

	Credits
ACC 2001 Elementary Financial Accounting	5
ACC 2301 Elementary Managerial Accounting	3
AEB 3111 Computers & Linear Programming for Agriculture	3
AEB 3133 Farm Firm Management	5
AGR 3303 Genetics	5
AGR 4231 Forage and Pasture Science	5
ASG 3003 Introduction to Animal Sciences	5
BCH 3023 Elementary Organic & Biological Chemistry	5
MAC 2233 Calculus for Economics & Business or MAC 3311 Analytic Geometry & Calculus I	5
SOS 3022C General Soils	5
VES 3202C Anatomy & Physiology of Domestic Animals	5
Electives	11

ENTOMOLOGY & NEMATOLOGY

Entomology and nematology are biological sciences dealing with two principal groups of Invertebrate animals. The curricula are designed to give basic training in entomology and nematology and specialized programs in various areas of these two sciences.

CURRICULUM I—GENERAL ENTOMOLOGY

College of Agriculture Core Requirements — 8 credits

Departmental Requirements — 30 Credits

	Credits
ENY 3005 Principles of Entomology	3
ENY 3006 Principles of Entomology Laboratory	2
or	
ENY 3004 General Entomology	4
ENY 3931 Undergraduate Seminar	1
ENY 4353 Insect Physiology and Morphology	5
ENY 4201 Insect Ecology, Behavior, and Systematics	5
ENY 4161 Insect Identification	5
ENY Electives	9 or 10

Other Requirements and Electives—58 Credits

BCH 3023 Organic & Biochemistry or equivalent	5
Electives in Agriculture and/or Biological Sciences	32
Suggested Courses: AGR 3303, ZOO 3203	
Approved Electives	21

For the Pest Management and Plant Protection Specialization, students must consult the department chairman for approved courses.

CURRICULUM II—PEST CONTROL AND BUSINESS

A program for a specialty in urban entomology and pest control. Students are trained in insect control, plant disease control, and weed control with special reference to problems in and around residential and other buildings. Trainees will be prepared to take the state certification examinations.

Since these pest problems are serviced by private pest control companies, considerable emphasis is given to business management so that trainees are prepared for administrative duties as well.

College of Agriculture Core Requirements—8 Credits

Department of Entomology & Nematology Requirements—28 Credits

	Credits
ENY 3005 Principles of Entomology	3
ENY 3006 Principles of Entomology Laboratory	2
ENY 4353 Insect Physiology and Morphology	5
ENY 4660 Medical and Veterinary Entomology	4
ENY 4161 Insect Identification	5
ENY 3551 Household Insects	2
ENY 3515 Ornamental and Turf Insects	2
ENY 4221 Insect Control	5

Business Requirements

ACC 2001 Elementary Financial Accounting	5
ACC 2301 Elementary Managerial Accounting	3
BUL 4121 Business Law (Contracts)	5
BUL 4305 Business Law (Property)	5
MAN 3010 Principles of Management	4
or	
MAR 3023 Principles of Marketing	4
or	
BCN 1210 Construction Materials	4

General Agriculture Requirements

AEB 3133 Farm Firm Management	5
AEB 4421 Agricultural Labor Economics	3
PLP 3002 Lectures in Basic Plant Pathology	2
PLP 3003 Laboratory in Basic Plant Pathology	3
PLP 4102 Principles of Plant Disease Control	4
PLS 4601 Weed Science	3
ORH 3513 Ornamental Plant Identification	4
ORH 4221 Turfgrass Culture	4

Other Requirements and Electives

BCH 3023 Elementary Organic and Biochemistry	5
Approved electives	14

FOOD AND RESOURCE ECONOMICS

Six curricula are offered by the Department of Food and Resource Economics. The curriculum selected by the student will depend upon the nature of his interest in the field. Students should consult the chairman of the department or the departmental adviser for guidance in making their choice of a curriculum and for approval of electives.

CURRICULUM I — FOOD AND RESOURCE ECONOMICS

This curriculum is designed for those students interested primarily in training as professional agricultural economists or in preparing for graduate study.

College of Agriculture Core Requirements—8 Credits
Departmental Requirements—33 Credits

	Credits
AEB 3103 Principles of Food and Resource Economics	5
AEB 3133 Farm Firm Management	5
AEB 3300 Marketing	5
AEB 3934 Food and Resource Economics Junior Seminar	1
AEB 4224 Public Policy in Agriculture	4
AEB 4324 Production Decisions of Agricultural Firms	4
AEB 4334 Agric. Price Analysis and Consumer Behavior	4
AEB 4511 Quantitative Analysis in Food and Resource Economics	4
AEB 4935 Food and Resource Economics Senior Seminar	1
Electives in Food and Resource Economics	2

Other Requirements and Electives—55 Credits

ECO 2013 Basic Economics	5
ECO 4101 Microeconomic Theory	5
ECO 4205 Macroeconomic Theory	4
MAC 3311 Analytic Geometry and Calculus I	5
MAC 3312 Analytic Geometry and Calculus II	5
STA 3023 Introduction to Statistics	4
STA 4222 Sample Survey Design	3
Free and Approved Electives	24

CURRICULUM II — AGRICULTURAL BUSINESS MANAGEMENT

This curriculum is designed for those students interested in administrative and service aspects of agricultural or related businesses.

College of Agriculture Core Requirements—8 Credits
Departmental Requirements—36-37 Credits

	Credits
AEB 3103 Principles of Food and Resource Economics	5
AEB 3133 Farm Firm Management	5
AEB 3300 Marketing	5
AEB 3934 Food and Resource Economics Junior Seminar	1
AEB 4224 Public Policy in Agriculture	4
AEB 4324 Production Decisions of Agricultural Firms	4
AEB 4334 Agric. Price Analysis & Consumer Behavior	4
AEB 4511 Quantitative Analysis in Food and Resource Economics	4
AEB 4935 Food and Resource Economics Senior Seminar	1
*Quantitative Methods	3-4

Other Requirements and Electives-51-52 Credits

ACC 2001 & ACC 2301 Elementary Accounting	8
BUL 4112 or AEB 3123 Business Law or Agric. Law	4-5
ECO 2013 Basic Economics	5
ECO 3100 or ECO 4101 Microeconomic Theory	3-5
ECO 3251 or ECO 4205 Macroeconomic Theory	4-5
MAC 2233 or MAC 3311 Calculus	5
STA 3023 Introduction to Statistics	4
Free and Approved Electives	16-18

*This requirement can be satisfied with AEB 4172, QMB 3700 or STA 4222.

CURRICULUM III—CO-MAJOR WITH OTHER DEPARTMENTS

Students majoring in other departments or colleges who feel the need for a better understanding of the economics of agriculture and the relationship of agriculture to the general economy can also take a Co-Major in Food and Resource Economics.

College of Agriculture Core Requirements—8 credits*
Departmental Requirements—25 Credits

	Credits
AEB 3103 Principles of Food and Resource Economics	5
AEB 3133 Farm Firm Management	5
AEB 3300 Marketing	5
AEB 3934 Food and Resource Economics Junior Seminar	1
AEB 4224 Public Policy in Agriculture	4
AEB 4334 Agric. Price Analysis & Consumer Behavior	4
AEB 4935 Food and Resource Economics Senior Seminar	1

Other Requirements and Electives—63 Credits

ECO 2013 Basic Economics	5
STA 3023 Introduction to Statistics	4
Free and Approved Electives	54

*Students taking a Co-Major in Food and Resource Economics and graduating in some other college will not be required to meet the curriculum core requirements of the College of Agriculture. Such students will have 62 instead of 54 hours of free and approved electives.

CURRICULUM IV—RURAL COMMUNITY AND REGIONAL ECONOMICS

This curriculum is designed to train professionals to work on problems affecting people and their communities.

College of Agriculture Core Requirements—8 Credits
Department Requirements—29 Credits

	Credits
AEB 3103 Principles of Food and Resource Economics	5
AEB 3413 Economics of Environmental Quality	4
AEB 3934 Food and Resource Economics Junior Seminar	1
AEB 4434 Land and Water Economics	4
AEB 4444 Regional Economics and Policy Analysis	5
AEB 4511 Quantitative Analysis in Food and Resource Economics	4
AEB 4726 Income and Employment of Rural People	5
AEB 4935 Food and Resource Economics Senior Seminar	1

Other Requirements and Electives—59 Credits

ECO 2013 Basic Economics	5
ECO 3100 or 4101 Microeconomic Theory	3-5
ECO 3251 or 4205 Macroeconomic Theory	4-5
ECO 4504 Public Finance	4
ECP 4602 Urban Economics	5
MAC 2233 or MAC 3311 Calculus	5
SOC 2000 Principles of Sociology	4
STA 3023 Introduction to Statistics	4
*Free and Approved Electives	23-25

*Suggested electives include: AEB 3133, AEB 4172, AEB 4224, AEB 4324, AEB 4905, AMH 4460, DHE 4200, EGN 4822, ENV 3003, GEO 3502, GEO 3602, MAG 3503, PAD 4003, POS 2112, PUP 4104, REE 3042, REE 4434, REE 4704, SOC 3300, SOC 3310, SOS 3003, SOS 3215, STA 4222.

CURRICULUM V — FOOD MARKETING AND DISTRIBUTION

This curriculum is designed for students interested in employment at the managerial level in the Food Industry.

College of Agriculture Core Requirements—8 Credits
Departmental Requirements—32 Credits

	Credits
AEB 3103 Principles of Food and Resource Economics	5
AEB 3300 Marketing	5
AEB 3934 Food and Resource Economics Junior Seminar	1

AEB 4172 Basic Activity Analysis for Econ. Decisions 4
AEB 4314 Terminal Markets 2
AEB 4334 Agric. Price Analysis and Consumer Behavior ... 4
AEB 4343 Food Wholesaling 3
AEB 4344 Food Retailing 3
AEB 4511 Quantitative Analysis in Food and Resource Economics 4
AEB 4935 Food and Resource Economics Senior Seminar 1

Other Requirements and Electives—56 Credits

ACC 2001 & ACC 2301 Elementary Accounting 8
BUL 4112 Business Law 5
ECO 2013 Basic Economics 5
ECO 3100 or ECO 4101 Microeconomic Theory 3-5
ECO 3251 or ECO 4205 Macroeconomic Theory 4-5
MAC 2233 or MAC 3311 Calculus 5
STA 3023 Introduction to Statistics 4
Free and Approved Electives 20-21

CURRICULUM VI—NATURAL RESOURCE AND ENVIRONMENTAL ECONOMICS

This curriculum is designed for students interested in natural resources and environmental quality.

College of Agriculture Core Requirements—8 Credits
Department Requirements—33 Credits

Credits

AEB 3103 Principles of Food and Resource Economics 5
AEB 3133 Farm Firm Management 5
AEB 3413 Economics of Environmental Quality 4
AEB 3934 Food and Resource Economics Junior Seminar 1
AEB 4224 Public Policy in Agriculture 4
AEB 4434 Land and Water Economics 4
AEB 4444 Regional Economics and Policy Analysis 5
AEB 4511 Quantitative Analysis in Food and Resource Economics 4
AEB 4935 Food and Resource Economics Senior Seminar 1

Other Requirements and Electives—55 Credits

ECO 2013 Basic Economics 5
ECO 3100 or ECO 4101 Microeconomic Theory 3-5
ECO 3251 or ECO 4205 Macroeconomic Theory 4
MAC 2233 or MAC 3311 Calculus 5
STA 3023 Introduction to Statistics 4
*Free and Approved Electives 32-33

*At least 18 quarter hours of electives must be chosen from the following courses: AEB 3123, AEB 3300, AEB 4172, AEB 4324, AEB 4334, AEB 4726, ECH 3783, ECO 4504, ECP 3423, ECP 4403, ECP 4602, EES 3008, ENV 3003, ENY 3005, FOR 4030, FNR 4612, MAG 3503, MAG 3732, OCE 4016, REE 3042, REE 4430, SOS 3022, SOS 3215, WIS 2040, WIS 3401, FOR 3303, FNR 3011, FNR 3050, FNR 3412, FNR 3650.

FOOD SCIENCE AND HUMAN NUTRITION

The Food Science and Human Nutrition Department offers two curricula, Basic Food Science and Nutrition and Dietetics. Students in these curricula take a common core of courses, required courses for their area of concentration, and electives. Students should consult the departmental advisers for guidance and approval of electives.

The Basic Food Science curriculum is designed to utilize the principles of chemistry, biochemistry, microbiology, engineering, other basic sciences, and management in applications related to the manufacturing, processing, preserving, distribution and packaging of food and food products for immediate or future utilization. General areas of study include: chemical, microbiological, and nutritional properties of raw and processed foods; role of processing and engineering in modifying food properties; food deterioration and spoilage; role of additives and other ingredients; food safety; food fermentation and new food product innovations. An opportunity is offered for students to intensify in areas of specialization such as general food processing, citrus processing, seafood processing, food chemistry, food engineering, food microbiology, management, food marketing, nutrition, public health and consumer protection. Cooperative programs are available with the appropriate commodity departments for students desiring to specialize in dairy, meat, poultry or fruit and vegetable processing. An excellent foundation for graduate study and research in Food Science or related fields is also provided.

The Nutrition and Dietetics curriculum is designed to give students a foundation in nutrition and, if desired, for a general dietetics internship program upon graduation. The Nutrition and Dietetics curriculum provides an excellent undergraduate education for students planning to enter a graduate program in human or animal nutrition, or the professions of medicine, dentistry, and veterinary medicine.

College of Agriculture Core Requirements—8
Department Core Requirements—39 Credits

Credits

HUN 2201 Fundamentals of Human Nutrition 4
FOS 3042 Introductory Food Science 4
FOS 4311C Food Chemistry 5
FOS 4222C Food Microbiology 5
FOS 4321C Food Analysis 5
FOS 4931 Food Science and Human Nutrition Seminar 1
CHM 3200-3200L Organic Chemistry 6
MCB 3020-3020L Basic Biology of Microorganisms 5
STA 3023 Introduction to Statistics 4

CURRICULUM I — BASIC FOOD SCIENCE

Additional requirements and electives — 49 Credits

Credits

FOS 4205C Food Plant Sanitation 3
FOS 4427C Principles of Food Processing 5
FOS 4722C Statistical Quality Control and Sensory Evaluation of Foods 3
FOS 4731 Government Regulations and the Food Industry 2
MAC 3311 Analytic Geometry & Calculus I 5
MAG 4062C Principles of Food Engineering 5

In addition, students will be required to complete any two of the following:

FOS 4522C Seafood Technology 4
FOS 4551C Fruit, Vegetable and Citrus Processing 4
ANS 4635 Meat Processing 4
DAS 4614 Dairy Technology 5
PSE 4611 Poultry Products Technology 4
Electives 17-18

CURRICULUM II — NUTRITION AND DIETETICS

Additional requirements and electives — 49 Credits

Credits

DIE 4125 Food Systems Management 4
DIE 4244 Nutrition and Disease 4
HUN 3221 Introduction to Human Nutrition 4
HUN 3246 Agricultural and Nutritional Biochemistry 4
HUN 4241 Human Nutrition 4
APB 3203 Basic Anatomy & Physiology 4
COP 3110 Introduction to Computer Programming 2
EDF 4210 Educational Psychology 5
MAN 3010 Principles of Management 4
MAN 3301 Personnel Management 4
PSY 2013 General Psychology 4
SOC 2000 Principles of Sociology 4
Electives 2

FOREST RESOURCES AND CONSERVATION

(For Bachelor of Science Degree Requirements, See Listings under School of Forest Resources and Conservation.)

FRUIT CROPS

(See Plant Sciences)

MECHANIZED AGRICULTURE

The Mechanized Agriculture curriculum is designed to provide expertise in the application of principles and management of physical systems for improving production agriculture and the handling, processing, and storage of agricultural products. Emphasis is also placed on efficient resource utilization and environmental quality protection in agriculture practices. The technology of mechanized agriculture is complemented with emphasis on agricultural sciences and business management.

Students graduating with a degree in Mechanized Agriculture are prepared for careers in one of four general areas (1) operations manager in production agriculture; (2) sales and service representative for agri-business firms; (3) agricultural extension; and (4) specialists with governmental agencies, agricultural organizations, insurance companies, banks, etc. The curriculum is structured to encourage concentration in one of the career areas. Concentration is achieved through selection of electives in consultation with the faculty academic adviser.

College of Agriculture Core Requirements—8 Credits

	Credits
ENC 4356 Report Writing	4
SPC 3601 Public Speaking	4

Mechanized Agriculture Requirements—88 Credits

*MAC 2223 Analytic Geometry and Calculus	5
*PHY 2003 Applied Physics	5
AEB 3103 Principles of Food and Resource Economics	5
ENY 3005 Principles of Entomology	3
ENY 3531 Animal Insects	2
*PSY 2013 General Psychology	4
Animal Science Requirement	4
Plant Science Requirement	8
MAN 3010 Principles of Management	4
*ACC 2001 Elementary Financial Accounting	5
MAR 3023 Principles of Marketing	4
MAG 3732 Water Management	4
MAG 3220 Agricultural Mechanics I	4
MAG 3312 Farm Machinery	4
MAG 4642 Environmental Systems for Agricultural Structures	4
MAG 4062 Principles of Food Engineering	5
MAG 3503 Agricultural and Environmental Quality	4
Approved Electives	14

*These required courses should be taken as electives within the first 96 credits.

The curriculum, 192 credit hours, contains 33 elective credits. A minimum of 20 elective credits specifically selected, in consultation with the Departmental adviser, to support the student's career objective is required.

MICROBIOLOGY AND CELL SCIENCE

The curriculum is designed to develop fundamental knowledge of bacteria, plant and animal cells, and viruses. It provides a background for pursuing graduate work in microbiology, cell biology, or biochemistry as well as other areas of agricultural sciences. It also provides a background necessary for work in research or diagnostic laboratories, both governmental and industrial. The curriculum also provides a background for entry into the professions of dentistry, medicine and veterinary medicine.

College of Agriculture Core Requirements—8 Credits
Departmental Requirements—36 Credits

	Credits
BCH 4313 Introduction to Physical Biochemistry	5
MCB 3020 Basic Biology of Microorganisms	3
MCB 3020L Basic Biology of Microorganisms Laboratory	2
PCB 3136 Cell Structure and Function	5
MCB, APB and PCB Electives	21

(BCH 4203 may count toward the 21 credits)
(One laboratory course beyond MCB 3020L is required)

Other Requirements and Electives—52 Credits

	Credits
CHM 3120 Quantitative Analysis	5
CHM 3210 Organic Chemistry	4
CHM 3210L Organic Chemistry Laboratory	1
CHM 3211 Organic Chemistry	3
CHM 3211L Organic Chemistry Laboratory	2
PHY 2050 General Physics	4
PHY 2050L General Physics Laboratory	1
PHY 2051 General Physics	4
PHY 2051L General Physics Laboratory	1
PHY 2052 General Physics	4
PHY 2052L General Physics Laboratory	1
MAC 3311 Analytic Geometry and Calculus I	5
MAC 3312 Analytic Geometry and Calculus II	5
Electives	12

ORNAMENTAL HORTICULTURE

(See Plant Sciences)

PLANT PATHOLOGY

The curriculum in Plant Pathology permits students to learn the principles of Plant Pathology and their applications to scientific agriculture. The following program is offered for a major in Plant Pathology with specialization in either Agricultural Science or Agricultural Technology. Students must consult the catalog statement for courses approved for the Specialization in Pest Management and Plant Protection.

College of Agriculture Core Requirements—8 Credits
Departmental Requirements—29 Credits

	Credits
PLP 3002 Lectures in Basic Plant Pathology	2
PLP 3003L Laboratory in Basic Plant Pathology	3
PLP 4102 Principles of Plant Disease Control	4
PLP 4931 Seminar in Plant Pathology	1 to 2
BOT 5435C Introductory Mycology	5
ENY 3701 Principles of Nematology	4
MCB 3020 Basic Biology of Microorganisms	3
MCB 3020L Basic Biology of Microorganisms Laboratory	2
MCB 4503C General Virology	5
*PLP 4906 Problems in Intermediate Plant Pathology	1 to 5

Other Requirements—38 Credits

	Credits
AGR 3303 Genetics	5
BOT 2011 General Botany	5
BOT 3503C Elementary Plant Physiology	4
BOT 3503L Elementary Plant Physiology Laboratory	2
BCH 3023 Elementary Organic and Biological Chemistry	5
ENY 3005 Principles of Entomology	3
ENY 3006L Principles of Entomology Laboratory	2
PLS 3221 Plant Propagation	3
PLS 3221L Plant Propagation Laboratory	2
PMA 3010 Fundamentals of Plant-Pest Management	3
SOS 3022C General Soils	5

Approved Electives—21 Credits

*Departmental elective

PLANT SCIENCES

(Agronomy, Fruit Crops, Ornamental Horticulture, Vegetable Crops, Plant Science)

Students in the Plant Sciences have the option of majoring in Agronomy, Fruit Crops, Ornamental Horticulture, Vegetable Crops or the broad area of Plant Science. Curricula in each of the four departments and Plant Science include common College of Agriculture and Plant Sciences core requirements, departmental requirements and approved electives totalling 96 credits. Students should consult an adviser in their respective major department as early as possible for program planning; students electing a Plant Science cur-

riculum rather than a departmental major should consult the Department of Agronomy.

College of Agriculture Core Requirements—7-8 Credits
*Plant Sciences Core Requirements—40 Credits**

	Credits
AGR 3303 Genetics	5
BCH 3023 Elementary Organic and Biological Chemistry	5
BOT 3503C Elementary Plant Physiology	4
BOT 3503L Elementary Plant Physiology Laboratory	2
ENY 3005 Principles of Entomology	3
ENY 3006L Principles of Entomology Laboratory	2
PLP 3002 Basic Plant Pathology	2
PLP 3003L Laboratory in Basic Plant Pathology	3
PLS 3221 Plant Propagation	3
PLS 3221L Plant Propagation Laboratory	2
PLS 4601 Weed Science	4
SOS 3022C General Soils	5

*PLS 4601 Weed Science, 4 cr., also required in PLS—General curriculum.

AGRONOMY

Curricula in Agronomy provide a sound educational experience for students in Agronomic Science, Technology, Business, Pest Management and Plant Protection, or General Agronomy. Detailed programs are available in crop production including field, forage, and pasture crops, as well as weed science, genetics, and plant breeding.

Departmental Requirements—20 Credits

	Credits
AGR 3210 Field Crop Science	4
AGR 4321 Plant Breeding	4
AGR 4906 Problems in Agronomy	3
AGR 4931 Agronomy Seminar	1
Electives in Agronomy	8

Other Requirements—7-11

PLS 4601 Weed Science	4
*PLS 4701 Field Plot Techniques	3
**STA 3023 Introduction to Statistics	4
Approved Electives (See specializations below)	18-22

Science Specialization (21 Credits):
BCH 4203-4313; CHM 3120-3211-3211L; MAC 3311-3312; MCB 3020-3020L; PHY 2050-2050L-2051-2051L.

Technology Specialization (22 credits):
AEB 3133; ASG 3003; ENY 3701; FRC 3212; MAG 3312; SOS 4115.

Business Specialization (22 credits):
ACC 2001; AEB 3300-3111-3133-4152; FIN 3303; MAN 3010; PSY 2013.

Pest Management and Plant Protection Specialization (18 credits):
PCB 3043C; PMA 3010-3931-3941-4401-4402L

General Agronomy (22 credits):
AEB 3111-3123-3133; APB 2170-2170L; ASG 3003; ENY 3701C; MAN 3010; PSY 2013; SOS 4115.

*Technology, Business, Pest Management and Plant Protection, and General Agronomy Specializations.
**Science Specialization.

Each student has the prerogative of choosing approved electives from the respective group of courses listed above to meet the requirements of a specialization in Agronomic Science, Technology, or Business, Pest Management and Plant Protection, and in General Agronomy.

FRUIT CROPS

Plant Sciences majors selecting an option in Fruit Crops receive a broad foundation in the science and technology of fruit production, handling and marketing, with emphasis on citrus fruits. Programs of study leading to specializations in citrus production management, fruit production management, science and business are available. Students should consult with the departmental adviser for approval of electives in their field of specialization.

Departmental Requirements—22 Credits

	Credits
FRC 3212 Introduction to Citrus Culture	4
FRC 4223 Citrus Production	4
FRC 4224L Field Production Practices in Fruit Crops	2
FRC 4225L Laboratory and Field Practices in Fruit Crops	2
FRC 4411 Physiology of Fruit Production	5
FRC 4612 Citrus Maturity and Packinghouse Procedure	4
FRC 4931 Senior Seminar	1

Electives for Specialization (see below) 16-20 credits
Other Approved Electives 6-10 credits
Recommended Electives
Citrus Production Management Specialization (16-20 credits)

	Credits
AEB 3133 Farm Firm Management	5
PLS 4601 Weed Science	4
SOS 4115 Fertilizers and Soil Fertility	4
MAG 3732 Water Management	4
ENY 4221 Principles of Insect Control	5
PLP 4102 Principles of Plant Disease Control	4
MAG 3503 Agriculture and Environmental Quality	4
ACC 2001 Elementary Financial Accounting	5
MAN 3301 Personnel Management	4
AEB 4421 Agricultural Labor Economics	3

Fruit Production Management Specialization (16-20 credits)

The departmental requirement of FRC 4223 is waived for this specialization. In its place students must select two of the following: FRC 3212, FRC 4271, or FRC 5251; FRC 3212 is also waived if the last two are chosen. Recommended electives are the same as for the Citrus Production Management Specialization.

Science Specialization (16-20 credits)

	Credits
PHY 2003 Applied Physics 2	5
CHM 2043 General Chemistry and Qualitative Analysis	4
CHM 3200 Organic Chemistry	4
CHM 3200L Organic Chemistry Laboratory	2
BOT 2710 Practical Plant Taxonomy	3
PCB 3043C Introduction to Ecology	5
BOT 4283 Microtechnique	3
BOT 5225 Plant Anatomy	5
MAC 3311 Analytic Geometry and Calculus I	5

Business Specialization (16-20 credits)

	Credits
AEB 3111 Computers and Linear Programming for Agriculture	3
AEB 3133 Farm Firm Management	5
AEB 3300 Marketing	5
AEB 4152 Farm Business Analysis	4
AEB 4421 Agricultural Labor Economics	3
ACC 2001 Elementary Financial Accounting	5
ACC 2301 Elementary Managerial Accounting	3
MAN 3010 Principles of Management	4
MAN 3301 Personnel Management	4
FIN 3403 Business Finance	4
MAC 2233 Calculus for Economics and Business	5

Students must also consult with the departmental adviser as to approved courses for college-wide specializations in Pest Management and Plant Protection, Tropical Agriculture and Environmental Studies.

ORNAMENTAL HORTICULTURE

Students majoring in Ornamental Horticulture may specialize in general ornamental horticulture, ornamental horticultural science, nursery and landscape horticulture, floriculture and foliage, or turfgrass production and maintenance. According to your specialization, you will be assigned an academic adviser to assist in developing a program

of course work. Students majoring in ornamental horticulture should complete the following requirements:

College of Agriculture Core Requirements ..... 8 credits
Plant Sciences Core Requirements ..... 36 credits
Departmental Requirements ..... 34 credits
Electives ..... 18 credits

All students will take the following courses within the department.

	Credits
ORH 3513 Fundamentals of Ornamental Plant Identification I	4
ORH 4411 Physiological Aspects of Ornamental Plant Production	4
ORH 4931 Ornamental Horticulture Seminar	1

According to the selected area of specialization, students will take three of the following four production courses.

ORH 4221 Turfgrass Culture	4
ORH 425S Principles of Nursery Operations	3
ORH 4263 Production of Floricultural Crops	4
ORH 4275 Commercial Production of Foliage Plants	4

SPECIALIZATIONS: Students should declare an area of specialization and complete 13-14 hours from the list of suggested courses.

A. *General Ornamental Horticulture.* This option is designed for those students who do not declare a specific commodity interest area and wish to complete a more generalized program in Ornamental Horticulture.

Select from ORH courses except ORH 3803 and ORH 3813.

B. *Ornamental Horticultural Science.* Students desiring to complete advanced degrees (M.S., PhD) should select this specialization, Accordingly, students will select courses to strengthen and prepare them for graduate school.

	Credits
BCH 4203 Introduction to Intermediary Metabolism	5
BCH 4313 Introduction to Physical Biochemistry	5
BOT 3303 Introductory Vascular Plant Morphology	5
BOT 4283 Microtechnique	3
CHM 2043 General Chemistry and Qualitative Analysis	4
CHM 3120 Quantitative Analysis	5
CHM 3210 Organic Chemistry	4
CHM 3210L Organic Chemistry Lab	1
STA 3023 Introduction to Statistics I	4
BOT 505C Intermediate Plant Physiology	5
CHM 3211 Organic Chemistry	3
CHM 3211L Organic Chemistry	2
MAC 3311 Analytic Geometry and Calculus I	5
MAC 3312 Analytic Geometry and Calculus II	5
MCB 3020 Basic Biology of Microorganisms	3
MCB 3020L Basic Biology of Microorganisms Lab	2
PCB 3043 Introduction to Ecology	5
PHY 2003 Applied Physics 2	5
SOS 411S Fertilizers and Associated Soil Reactions	4

C. *Nursery and Landscape Horticulture.* Nursery Management includes the production, storage, and marketing of ornamental trees, shrubs, and vines. Landscape horticulture deals with the location, care and maintenance of ornamental trees, shrubs and vines for the improvement and beautification of man's environment.

	Credits
ORH 3514 Ornamental Plant Identification II	4
ORH 3516 Herbaceous and Exotic Plant Materials	4
ORH 3731 Biological Illustrations	4
ORH 3231 Grounds Maintenance	4
ORH 3534 Relationships of Ornamental Plants to the Urban Environment	3
ORH 3815 Introduction to Landscape Horticulture	4
ORH 4941 Full Time Work Experience	1-4
ORH 4255L Nursery Operations Laboratory	1
ORH 4242 Aboriculture	2
ORH 4242L Aboriculture Laboratory	2
ORH 4221L Turfgrass Culture Laboratory	2
ORH 4905 Special Topics and Independent Study	1-8

D. *Floriculture and Foliage.* The growing of cut flowers, potted plants, foliage plants and transplants in the greenhouse or field, and the sale of these crops through wholesale commission florists, flower shops and other retail outlets.

	Credits
ORH 3514 Ornamental Plants ID II	4
ORH 3516 Herbaceous and Exotic Plant Materials	4
ORH 3611 Retail Florist Shop Management	4
ORH 3534 Relationship of Ornamental Plants to the Urban Environment	3
ORH 4941 Practical Work Experience	1-4
ORH 4242 Aboriculture	2
ORH 4242L Arboriculture Laboratory	2
ORH 4263L & 4264L Floriculture Lab I and II	1 each
ORH 4905 Special Topics and Independent Study	1-8
ORH 4280 Orchidology	4

E. *Turfgrass Production and Maintenance.* The production of turfgrass for sod and maintenance of grasses for lawns, golf courses, and recreational areas.

	Credits
ORH 3514 Ornamental Plant ID II	4
ORH 3516 Herbaceous and Exotic Plant Materials	4
ORH 3231 Grounds Maintenance	4
ORH 3534 Relationships of Ornamental Plants to the Urban Environment	3
ORH 4941 Practical Work Experience	1-4
ORH 4255L Nursery Operations Laboratory	1
ORH 4242 Aboriculture	2
ORH 4242L Arboriculture Laboratory	2
ORH 4221L Turfgrass Culture Laboratory	2
ORH 490S Special Topics and Independent Study	1-8
PLS 4601 Weed Science	4
SOS 4115 Fertilizers and Associated Soil Reactions	4
ENY 3701 Principles of Nematology	4
ENY 4221 Principles of Insect Control	5

Electives: Eighteen (18) hours of electives may be selected to complete your degree program. Suggested areas of coursework can be taken in accounting, economics, fruit crops, vegetable crops, and ornamental horticulture.

VEGETABLE CROPS

The option in Vegetable Crops is designed to give students an adequate foundation of basic plant science which, together with specific courses in the principles of production and marketing of vegetables, will prepare them for primary employment in any phase of the specialized vegetable industry.

Departmental Requirements — 21 Credits

	Credits
VEC 3224 Principles of Vegetable Production	3
VEC 422S Commercial Cool Season Vegetable Crops	3
VEC 4226 Commercial Warm Season Vegetable Crops	4
VEC 4410 Vegetable Crops Nutrition	3
VEC 4432 Growth and Development of Vegetable Crops	4
VEC 44S2 Principles of Postharvest Horticulture	4
Approved Electives	27

Elective hours, chosen with the advice of departmental advisers, enable students to study in an agricultural science or business specialization.

For the Pest Management and Plant Protection Specialization, students must consult the department chairman for approved courses.

PLANT SCIENCE

Students interested in majoring in the broad area of Plant Science rather than one of the four component departments receive an adequate foundation in both in the basic and applied plant sciences. Electives should be selected with the advice and approval of the assigned Plant Science adviser.

Plant Science Requirements — 40 Credits

	Credits
Approved electives in AGR, FRC, ORH, VEC (with a minimum of 3 credits in each of the four departments)	20
Other approved electives	24-25

A specialization option in Pest Management for Plant Protection requiring 22 credits of the electives is available; details may be obtained from the assigned Plant Science counselors.

POULTRY SCIENCE

Two curricula are offered by the Department of Poultry Science. Students should consult the Chairman or the departmental adviser for guidance in making their curriculum choice and for approval of electives.

CURRICULUM I—General or Science

This curriculum is designed for those students interested in training in poultry production, pre-veterinary medicine or in preparing for graduate study.

College of Agriculture Core Requirements — 8 Credits

Electives — Selected from AGG 4603, ENC 3343, ENC 3351, ENC 43S6 and SPC 3601.

Science Core Requirements — 42 Credits

	Credits
ACC 2001 Elementary Financial Accounting or AEB 3133 Farm Firm Management	5
AGR 3303 Genetics	5
ASG 3003 Introduction to Animal Sciences	5
ASG 3313 Principles of Animal Breeding	5
ASG 3403 Principles of Animal Nutrition	3
ASG 3404 Applied Animal Nutrition	3
ASG 4931 Seminar	1
BCH 3023 Elementary Organic and Biological Chemistry	5
MCB 3020 Basic Microbiology of Microorganisms	3
MCB 3020L Basic Microbiology of Microorganisms Laboratory	2
VES 3202 Anatomy and Physiology of Domestic Animals	5

Departmental minimum requirements—16 credits

Students selecting this curriculum are required to take the following Poultry Science courses:

	Credits
PSE 3211 Incubation, Brooding and Rearing	4
PSE 4223 Poultry Management	4
PSE 4411 Poultry Nutrition	4
PSE 4611C Poultry Products Technology	4
Electives (free and approved)	30

CURRICULUM II—Management or Business

This curriculum is designed for those students who plan a career in any of various phases of the poultry or allied industries with major emphasis on the management or business aspect.

College of Agriculture Core Requirements — 8 Credits

Electives — Selected from AGG 4603, ENC 3343, ENC 3351, ENC 4356 and SPC 2300

Management Core Requirements — 45 Credits

	Credits
ACC 2001 Elementary Financial Accounting	5
ACC 2301 Elementary Managerial Accounting	3
AEB 3111 Computers and Linear Programming for Agriculture	3
AEB 3133 Farm Firm Management	5
AGR 3303 Genetics	4
ASG 3003 Introduction to Animal Sciences	5
ASG 3403 Principles of Animal Nutrition	3
ASG 3404 Applied Animal Nutrition	3
BCH 3023 Elementary Organic and Biological Chemistry	5
MAC 2233 Calculus for Economics and Business or MAC 3311 Analytic Geometry and Calculus I	5
VES 3202 Anatomy and Physiology of Domestic Animals	5

Departmental Requirements — 16 Credits

Students are required to take the following Poultry Science courses:

	Credits
PSE 3211 Incubation, Brooding and Rearing	4
PSE 4223 Poultry Management	4
PSE 4411 Poultry Nutrition	4
PSE 4611 Poultry Products Technology	4
Free Electives	9

Approved Electives — 17 Credits

Approved electives are to be taken from Poultry Science and related courses listed above or from the following courses: AEB 3141, AEB 3300, AEB 4172, AEB 4511, ANS 5446, ASG 3313, BUL 4121, MAN 3301, MCB 3013, MCB 3013L, and STA 3023.

SOIL SCIENCE

The Department of Soil Science offers three curricula (Soil Science, Soil Technology, and Soil Conservation and Land-Use Planning) each of which is designed to meet the specific needs of the individual. Students should consult the chairman of the department or the departmental adviser for approval of electives in their field of specialization.

SOIL SCIENCE

This program of study emphasizes the basic sciences. Students following this curriculum can qualify for graduate study and research in Soil Fertility, Soil Chemistry, Soil Microbiology, Soil Physics, or Soil Genesis and Classification by a careful selection of elective courses.

Core Requirements in College of Agriculture — 8 Credits
Departmental Requirements — 22 Credits

	Credits
SOS 3022 General Soils	5
SOS 4404 Soil Chemistry	4
SOS 4303 Soil Microbiology	4
SOS 471S Soil Genesis & Classification	4
SOS 4602 Soil Physics	4
Electives in Soil Science	1

*Other Requirements and Electives — 66 Credits**

	Credits
GLY 2015 Physical Geology	4
APB 2170-2170L Microbiology with Discussion Laboratory	5
BOT 3503-3503L Elementary Plant Physiology with Laboratory	6
MAC 3311 Analytic Geometry and Calculus I	5
PHY 2050-2050L General Physics 1 with Laboratory	5
PHY 2051-2051L General Physics 2 with Laboratory	5
PHY 2052-2052L General Physics 3 with Laboratory	5
CHM 2043 General Chemistry and Qualitative Analysis	4
CHM 3120-3120L Analytical Chemistry 1 with Laboratory	6
*Free and Approved Electives	21

*Suggested electives: CHM 3200-3200L, CHM 3400-3401 or CHM 4410-4411-4412, ENY 300S, ENY 3006, ENY 3701, GLY 4200, GLY 4210, GLY 4301, GEO 3200, MAC 3312, PLP 3002-PLP 3003L, SOS 4115, SOS 471B, SOS 4732, SOS 4905.

SOIL TECHNOLOGY

This program of study is designed primarily for the student who desires employment in one of the many applied fields

of agriculture after obtaining the bachelor's degree. By a careful selection of electives one may prepare for a career according to his or her specific interests.

Core Requirements in College Agriculture — 8 Credits
Departmental Requirements — 26 Credits

	Credits
SOS 3022 General Soils	5
SOS 4404 Soil Chemistry	4
SOS 4303 Soil Microbiology	4
SOS 4115 Fertilizers & Soil Fertility	4
Electives in Soil Science	9

Other Requirements and Electives — 62 Credits

	Credits
MAG 3732 Water Management	4
AGR 4231 Forage and Pasture Science	5
FRC 3212-3212L Intro. to Citrus Culture with Laboratory	5
APB 2170-2170L Microbiology with Discussion Laboratory	5
ENY 3005-3006L Principles of Entomology with Laboratory	5
PLP 3002-3003L Lectures and Laboratory in Basic Plant Pathology	5
* Free and Approved Electives	33

* Suggested Electives: AEB 3133, ANS 3007, CHM 3120, ENC 3343, GEO 3200, GLY 2015, GLY 2100, PLS 2031, PLS 3221-3221L, SOS 4602, SOS 4715, SOS 4732.

SOIL CONSERVATION AND LAND-USE PLANNING

This curriculum is recommended for students desiring a fundamental knowledge of soils requisite to their conservation and the formulation of sound land-use decisions for a wide variety of purposes to meet the needs of our rapidly expanding population. These include agricultural, industrial, urban, and recreational developments. Employment opportunities exist with federal, state, and local governmental as well as private organizations involved in building and highway construction, land appraisal and assessment, land zoning, and other activities related to ecology and the environment, sanitation, and land-use capability.

Core Requirements in College of Agriculture — 8 Credits
Departmental Requirements — 24 Credits

	Credits
SOS 3022 General Soils	5
SOS 3215 Agricultural and Environmental Quality	4
SOS 4404 Soil Chemistry	4
SOS 4715 Soil Genesis and Classification	4
SOS 4732 Soil Survey	3
SOS 4718 Soils of Florida	3
Electives in Soil Science	1

Other Requirements and Electives — 64 Credits

	Credits
MAG 3732 Water Management	4
GLY 2015 Physical Geology	4
GEO 3200-3200L Physical Geography with Laboratory	5
PCB 3043 Introduction to Ecology	5
ENV 3003 Environmental Quality and Man	4
ORH 3534 Relationships of Ornamental Plants to Urban Environment	3
REE 4704 Urban Land Use Analysis	4
*Free and Approved Electives	35

*Suggested Electives: AGG 2501, AEB 3103, AEB 3123, ANT 2410, ANT 4304, BOT 3800, COC 3400, FOR 4621, FOS 2001, GEO 3370, GEO 3430, GLY 4155, MET 1010, PUP 3204, SOC 3310, STA 3023, SOS 4115, SOS 4303, SOS 4602.

STATISTICS

A major in Statistics is offered through the College of Agriculture. Students should consult with the Undergraduate Coordinator for curriculum. (See College of Liberal Arts and Sciences for requirements)

VEGETABLE CROPS

(See Plant Sciences)

ARCHITECTURE
BUILDING CONSTRUCTION
INTERIOR DESIGN
LANDSCAPE ARCHITECTURE

College of Architecture

GENERAL STATEMENT

The College of Architecture provides instruction for students who seek professional careers in the Building Arts. The College has developed from the School of Architecture established in 1925. Its organization now includes — the Department of Architecture and School of Building Construction: Programs in Interior Design, Landscape Architecture, and Urban and Regional Planning (Graduate); the Bureau of Research.

PROGRAMS

Professional Instruction — The College offers professional curricula leading to appropriate undergraduate degrees in:
Architecture (Preprofessional)
Building Construction
Interior Design
Landscape Architecture

The College also offers at the Graduate level professional programs in Architecture, Building Construction and Urban and Regional Planning. Each undergraduate and graduate program stresses thorough mastery of the principles underlying its field and the development of professional skills in their creative application to practice.

Bureau of Research: The Bureau fosters and encourages research in all areas of the building arts. It also provides an opportunity for graduate students and faculty members to engage in research and cooperate effectively in research with other University departments and with other institutions.

LIBRARY FACILITIES

The University Libraries and the Architecture and Fine Arts Library together provide an important working collection of publications and audio-visual materials for undergraduate and graduate studies. These resources include books, government documents, leading American and foreign periodicals, color prints, and slides.

COUNSELING

Students planning to major in any program of study in the College of Architecture should see the Director of Student Services or the proper Upper Division departmental chairman, program director or advisor as soon as possible in their college program.

Each student in the College is assigned a faculty member as their advisor who remains as that student's advisor through graduation. This advisor is available to the student as needed and can assist with academic processes and personal problems as well. These advisors are highly qualified in their respective professions and the students are encouraged to take full advantage of their assistance. The student-advisor relationship is very important to the effective academic progress of the student.

STUDENT AID

Students interested in part-time employment, assistantships, fellowships, loans, prizes, and awards are referred to individual departments and information provided by the Student Financial Aid Office, University of Florida, Gainesville, Florida.

PRACTICAL EXPERIENCE

Students are urged to obtain before graduation some experience in the employ of practicing professionals in their particular field, or in some allied work which will give an insight into the problems of professional practice. Such employment provides an introduction to the methods of actual practice, and enables the student to derive increased benefit from advanced work in school. Students should seek the counsel of their faculty adviser as to the type of practical experience best suited to their individual needs.

FIELD TRIPS

Each year a number of field trips are arranged to give students an opportunity to broaden and extend their educational experience through study of construction projects of unusual interest or of outstanding works of architecture. Students frequently combine such studies with attendance at state and national meetings of the professional organizations in their respective fields.

STUDENT WORK

The College reserves the right to retain student work for the purpose of record, exhibition, or instruction.

STUDENT ORGANIZATIONS

Student organizations take an active part in the educational program of the College. Membership in the professional organizations of each discipline is available to the student chapters. Student chapters of the American Institute of Architects and the American Society of Interior Designers, the UF Chapter of the American Society of Landscape Architects and the Student Contractors and Builders Association are all represented. In addition honorary societies of Tau Sigma Delta, Sigma Lambda Chi, and the Gargoyle Society are represented. The College recognizes the importance of student involvement and encourages and assists participation with professional groups and societies.

GRADUATE DEGREES

The college offers the degrees of Master of Arts in Architecture, Master of Arts in Urban and Regional Planning, Master of Science in Building Construction, Master of Building Construction. To meet the needs and goals of each student, graduate programs are prepared in consultation with a designated member of the Graduate Faculty of the College of Architecture. For further information, see the Graduate School catalog.

Architecture: Those students with a Bachelor of Design (Architecture) degree who wish to obtain a professional degree in architecture must pursue the two year graduate program which is a prerequisite for seeking licensing for architectural practice. It permits further study in specialized areas of architectural design, architectural history, architectural structures, environmental technologies or architectural preservation.

Under special circumstances the graduate faculty of the department may elect to admit students who have a Bachelor of Architecture degree from a five-year program, for a one-year graduate program leading to the Master of Arts in Architecture.

Building Construction: A program focusing on managing construction. Areas of intensive study and research include construction management, advanced construction techniques, building systems, construction materials and structural concepts. Holders of a four-year undergraduate degree in Building Construction normally can complete the program in one academic year (3 quarters). Students with undergraduate degrees in related fields, such as Architecture and Engineering can normally complete the program in one year (four quarters).

The construction industry needs managers with a knowledge of business. To meet this need there is a special program for students with a four-year degree in Business Ad-

ministration leading to a Master of Building Construction Degree in six quarters.

Urban and Regional Planning: The Department of Urban and Regional Planning offers a 72 credit hour graduate program leading to a Master of Arts in Urban and Regional Planning. Planners strive for integrated social, economic, and physical development of communities, urban or rural regions, and states. The planning program stresses analysis of issues and problems in formalization of policies, plans, and implementing programs, for both public and private organizations. Policies and plans are used to direct or influence change—change which leads to development of resources, and development or redevelopment of communities. This program is particularly important as Florida and the South look to a future coping with rapid development and growth.

The southern region has spoken through regional growth policies and individual state legislation expressing the need for growth planning and management as an alternative to no-growth strategems. This program offers a unique location in Florida to provide a base for research and study in this dynamic southern region.

Students may begin this graduate program any quarter, including summer. Applicants are encouraged from such undergraduate programs as architecture, landscape architecture, engineering, social sciences, and other fields. Minorities are encouraged to apply, for as planners they will have a vital role in understanding and solving the urban problems of city dwellers. Those finishing the program will be prepared to enter the planning profession and take the membership examination of the American Institute of Planners.

For more information, see the Graduate School catalog, or contact the program office in 431 GPB, (904) 392-0997.

REQUIREMENTS FOR ADMISSION

The University of Florida and the College of Architecture encourage applications from qualified students from all cultural, racial, religious and ethnic groups. Listed below are the specific requirements for admission to this College. It should be understood, however, that minimum requirements are given and that admission to the College is a selective process. The satisfaction of minimum requirements does not automatically guarantee admission. Limitations in staff, faculty and facilities make it necessary that the College establish quotas for the admission of students. Therefore, eligible applicants will be considered for admission to the College of Architecture within established quotas. A student's total record, including educational objective, pattern or courses previously completed, quality of previous academic record, and test data will be considered in evaluating an application for admission. Priority in admission will be given to those applicants whose potential, on the basis of their total record, indicates the greatest likelihood of success in the program requested.

Students Classified UF: To be eligible for admission to the College of Architecture, a University College student must have: 1) earned at least 92-99 quarter hours (varies with curricula) with the minimum average of "C" or higher in the courses required by the appropriate curriculum specified for the Freshman and Sophomore years; and 2) passed all required preprofessional courses within those two years with a minimum grade average of "C". Admission to programs restricting enrollment because of space limitations may require that the student earn higher than the 2.0 (C) average minimum. Quotas will limit the admission of students based upon the overall academic record, grade point average and apparent potential for successful completion of the program.

Minimum grades required in certain courses and other special requirements for admission to various curricula in the College of Architecture should be obtained from the Dean's Office or from the departmental adviser.

Transfer Students: To be eligible for admission to the College of Architecture a transfer student must satisfy the minimum requirements for admission as specified in the ADMISSIONS section of this catalog. Additionally, the applicant must satisfy the following specific requirements for admission to the College of Architecture:

A. Transfers from four-year colleges.

Students attending four-year colleges should take courses similar to the appropriate program as outlined in this catalog.

B. Community College Transfers to Departments within the College.

1. Curricula in Architecture: Transfer students from community colleges not having approved prearchitecture programs may be admitted provisionally (see below) and should expect to take up to four quarters of work at the University of Florida to complete the preprofessional courses not available at the community college. Mathematics, including calculus, and one year of physics with laboratory, should be taken at the community college if available. In addition, courses in freehand drawing, and perspective drawing with instruments are recommended.

2. *Curriculum in Interior Design:* Same as 1. above except calculus and physics are not required. If available, economics or accounting, free-hand drawing and trigonometry should be taken at the community college.

3. *Curriculum in Landscape Architecture:* Transfer students should expect to take a minimum of four quarters to complete preprofessional courses not available at the community college. Mathematics including calculus and botany should be taken at the community college. The physical science requirement may also be fulfilled at the community college.

4. *Curriculum in Building Construction:* Transfer students, in addition to obtaining an Associate of Arts degree and completing general education requirements, should satisfactorily complete the following at the junior or community college: mathematics, including calculus through basic integration; one year of physics with laboratory; one course each in accounting, business communications or technical report writing, and drawing with instruments such as architectural or engineering drawing.

The three remaining Freshman and Sophomore preprofessional courses, one each in physical geology, construction materials, and statics should be taken at the junior or community college if available, If not available they must be satisfactorily completed in the first term of registration at the University of Florida before the student can proceed to the Junior level courses.

Each Florida junior and community college has been furnished a copy of a suggested pre-Building Construction program listing those local courses which satisfy Freshman and Sophomore prerequisite requirements for the University of Florida program. Any student may write the School of Building Construction for a copy.

Provisional Admission: The professional programs of the College demand that preprofessional course-work begin with the Freshman year. Realizing that most of the schools from which transfer students come do not offer all such courses, the College provides an opportunity for admissable students to remove these deficiences. Qualified transfer students, indicating potential, but not having completed all preprofessional prerequisites, may be admitted provisionally based upon space available. Due to limitations in space and faculty all qualified students may not be admissable. Students admitted provisionally will register for the courses necessary to eliminate deficiencies in the shortest time possible. Until these deficiencies are removed students will be required to maintain a "C" (2.00) average to be eligible for continued registration and may be prevented from registering for courses numbered 3000 or above.

Removal of provisional status and approval for continued registration at the 3000 level courses is as recommended by the Departmental selection committee upon removal of preprofessional deficiencies within limitations of available space.

MAXIMUM AND MINIMUM LOADS

Fifteen to eighteen quarter hours in any regular quarter shall be considered a normal load. A student may be permitted to register for more than eighteen quarter hours when, in the opinion of his adviser, the quality of his record justifies this. The minimum load for a full-time student in the University during a regular quarter is 12 hours. At the time of registration a student, with the approval of the Dean, may register for less than twelve quarter hours. If a student wishes to drop courses during the quarter, he must have the approval of the College Committee on Student Petitions.

NORMAL ACADEMIC PROGRESS

The student will have maintained normal academic progress when he earns a minimum grade point of 2.0 (C) average for all work attempted in the Upper Division. In addition, he is required to take courses in a sequence as specified by his departmental chairman or adviser. The student may be excluded from a program of study in the College of Architecture if he fails or refuses to maintain normal academic progress.

DEAN'S HONOR LIST

Undergraduate students who demonstrate excellence in their academic work by completing a full course load (minimum of 12 quarter hours credit) in a quarter term and achieving a grade point average of 3.5 or better will earn a position on the Dean's Honor List. Students whose term averages are below 3.5 due to grades of I or X are not eligible.

GRADUATION REQUIREMENTS

To be eligible for graduation, the student must earn a minimum grade point average of 2.0 (C) for all work attempted in the appropriate curriculum while classified in the College. Courses taken while enrolled in another Upper Division College may not apply toward the calculation of the College of Architecture average. Specific grade requirements for the various curricula may be obtained from the department or Dean's Office.

Students planning to enter the Graduate School should maintain a 3.0 (B) average in Upper Division work.

GRADUATION WITH HONORS AND HIGH HONORS

The faculty will consider recommending students for graduation with HONORS or HIGH HONORS on the following criteria: (a) grade point average, (b) distribution and quality of subject matter studied, (c) evaluation of the students by the faculty, and (d) other pertinent qualities of the student and his work.

The student will be considered for HONORS or HIGH HONORS upon his earning a minimum academic average established by his department or program. The average will be calculated on all work attempted while the student is classified in the Upper Division. Transfer credits will be excluded from the average; HONORS or HIGH HONORS may be awarded upon a minimum of 72 quarter hour credits taken at the University of Florida. Students should check with their department or program director for minimum average required.

I. CURRICULUM IN ARCHITECTURE

Leading to the Degree of Bachelor of Design (Architecture)
Butt, A. F., *Chairman*.

This curriculum is for students who desire to obtain a preprofessional education in architecture. It is the undergraduate preparation for the two-year graduate program for those interested in professional practice, teaching, and similar careers of creative and intellectual activity. For other careers in architecture the course of study leading to the Bachelor of Design is a terminal program.

Students participate in a 2-year program of general education in architecture. Also in consultation with departmental counselors the student selects electives which will strengthen and reinforce individual interests and objectives. Elective study permits the student to begin a background for the 2-year professional graduate program.

In the graduate program optional courses of study are architectural design, architectural structures, architectural environmental technologies, architectural history and architectural preservation. For details of the graduate professional program see the *Graduate catalog*.

The undergraduate and graduate programs form a curriculum of study accredited by the National Architectural Accrediting Board.

The program of study is included below to show a typical sequence in which courses are taken. In the first and second years, courses are offered frequently in quarters in addition to those shown. First-quarter courses for the third year are offered only in the fall or spring quarters, with subsequent courses offered in the appropriate quarters to maintain the desired sequences. Admission into the third year is determined by the Department Selection Committee.

The Department reserves the right to retain student work for the purposes of record, exhibition, or instruction.

FIRST YEAR	*Credits*
MAC 2223 Analytic Geometry/Calculus	5
PSC 2501 Physical Sciences	4
ARC 1115C Basic Drawing	4
ARC 1211 Building Arts	3
	16
BES Behavioral Studies	4
PHY 2002C Applied Physics I	5
English	3
ARC 1126C Architectural Drawing	4
	16
PHY 2003C Applied Physics II	5
English	3
ARC 1131C Architectural Communications	4
HUM Humanities	4
	16

SECOND YEAR	*Credits*
HUM Humanities	4
English	3
SSI Social Sciences	3
ARC 2311C Architectural Design I	4
Physical Education	1
	15
APB Biological Sciences	3
HUM Humanities	4
SSI Social Sciences	3
ARC 2313C Architectural Design II	4
Physical Education	1
	15
APB Biological Sciences	3
ARC 2461 Mat/Method Construction 1	4
ARC 2580 Architectural Structures 1	4
BES Behavioral Studies	4
SSI Social Sciences	3
	18

THIRD YEAR	*Credits*
ARC 3381C Architectural Design 3	6
ARC 3581C Architectural Structures 2	4
ARC 3681C Environmental Technology 1	4
	14
ARC 3382C Architectural Design 4	6
ARC 3551C Architectural Structures 3	4
ARC 3711 Survey of Architectural History 1	4
	14
ARC 3383C Architectural Design 5	6
ARC 3631C Environmental Technology 2	4
ARC 3463C Mat/Method Construction 2	4
	14

FOURTH YEAR	*Credits*
ARC 4384C Architectural Design 6	6
ARC 4561C Architectural Structures 4	4
ARC 4731 Survey of Architectural History 2	4
	14
ARC 4385C Architectural Design 7	6
ARC 4464C Mat/Method Construction 3	4
ARC 4682C Environmental Technology 3	4
	14
ARC 4386C Architectural Design 8	6
ARC 4274 Prof. Ad., Specs., & Estimating	4
ARC 4741 Survey of Architectural History 3	4
	14
Electives (Total for 3rd & 4th Years)	12
Total	96

II. CURRICULUM IN INTERIOR DESIGN

Leading to the degree of Bachelor of Design. MacFarlane, J., *Program Director, Adviser.*

This curriculum is for students who desire to become professional interior designers in the domestic, commercial, and institutional fields, or who desire to engage in the design, and manufacture of furniture and accessories.

For Freshman and Sophomore programs of study consult section of catalog entitled Lower Division.

The Department reserves the right to retain student work for the purposes of record, exhibition, or instruction.

Students must begin the third year program during the Fall Quarter only.

FIRST YEAR	*Credits*
ARC 1211 The Building Arts	3
SSI Social Sciences	3
PSC Physical Sciences	4
ENG English	3
PSC Physical Education	2
	15
ARC 1115 Basic Drawing	4
SSI Social Sciences	3
PSC Physical Sciences	3
ENG English	3
BES Behavioral Studies	3
	16
ARC 1126 Architectural Drawing	4
SSI Social Sciences	3
PSC Physical Sciences	3
ENG English	3
BES Behavioral Studies	3
	16

SECOND YEAR	*Credits*
HUM Humanities	4
MAC Algebra and Trigonometry	5
ARC 1131 Architectural Communications	4
ELECT Electives	4
	17
HUM Humanities	4
APB Biological Sciences	3
ACC Accounting	5
ARC 2311 Architectural Design 1	4
	16
HUM Humanities	4
APB Biological Sciences	3
ARC 2313 Architectural Design	4
ELECT Elective	5
	16

THIRD YEAR	*Credits*
IND 3215 Interior Design 1	5
IND 3420 Interior Furnishings 1	4
IND 3311 Interior Architectural Drawing	4
ARC 2641 Mat. & Methods of Construction 1	4
	17
IND 3216 Interior Design 2	5
IND 3421 Interior Furnishings 2	4
IND 3100 History 1	4
ARC 3463 Mat. & Methods of Construction 2	4
	17
IND 3217 Interior Design 3	5
IND 3430 Interior Furnishings 3	4
IND 3130 History 2	4
IND 3422 Textiles	4
	17

FOURTH YEAR	*Credits*
IND 4222 Advanced Interior Design 1	8
IND 4451 Applied Design Connections	4
ELECT Elective	4
	16
IND 4223 Advanced Interior Design 2	8
IND 4500 Practice of Interior Design	4
ELECT Elective	4
	16
IND 4226 Advanced Interior Design 3	8
BUL Business Law	5
ELECT Elective	3
	16

III. CURRICULUM IN LANDSCAPE ARCHITECTURE

Leading to the Degree of Bachelor of Landscape Architecture H.H. Smith, *Program Director and Adviser*

This four-year curriculum is designed for those students who seek an undergraduate professional education in Landscape Architecture. Leading to the degree, Bachelor of Landscape Architecture, the program is accredited by the American Society of Landscape Architects, and is an essential first

step toward legal identity in those states which regulate the practice of landscape architects. Since Florida is one of these states, entering students are embarked on a professional career where discipline and ethical commitment are construed as being in the best interest of public health, safety and welfare.

The program is based on the core knowledge of landscape architecture which is enhanced through subsequent professional practice. Students become familiar with the art of design, planning or management, and the arrangement of natural and man-made elements on the land through application of cultural and scientific knowledge. There is concern for resource conservation and stewardship to the end that the resultant environment serves useful and enjoyable purposes. Graduates are largely employed by professional offices and municipal, state or federal recreation, landscape architectural or planning agencies. Many graduates also continue in graduate programs at other institutions throughout the country.

Since landscape architecture is a quota program, please see Requirements for Admission, College of Architecture.

All entering students must consult with the program advisor for course scheduling and sequencing.

Preprofessional Program

FIRST YEAR	*Credits*
ARC 1211 Building Arts	3
ARC 1115C Basic Drawing	4
ENG English	3
MAC 2223 Anal. Geom./Calc.	5
PEM 1100 Physical Education	2
	17
ARC 1126C Architectural Drawing	4
ENG English	3
PSC Physical Science	4
BSC 2010 Organismic Biology	4
SSI American Institutions	3
	18
ARC 1131C Architectural Communication	4
ENG English	3
SOC 2000 Principles Sociology	4
PSC Physical Sciences	3-4
COP 3110 Intro. Computer Program	2
	16-17
	51-52

SECOND YEAR	*Credits*
ARC 2311C Architectural Design 1	4
PCB 3043 Intro. to Ecology	5
HUM Humanities	4
GLY 2015 or PHY 2002 (Geol. or Physics)	4-5
	17-18
ARC 2313C Architectural Design 2	4
LAA 2710 Landscape Architecture 1	4
HUM Humanities	4
SSI Social Sciences	3
	15
ARC 2461 Mat. & Meth. Construction	4
ARC 2580 Architectural Structures 1	4
LAA 2711 Landscape Architecture 2	4
HUM Humanities	4
	16
	48-49
(minimum)	96

Professional Program

THIRD YEAR	*Credits*
LAA 3350L Landscape Architectural Design 1	5
LAA 3420 Landscape Construction 1	4
LAA 3330C Site Analysis	4
ORH 3513C Fund. Orn. Plant Class	4
	17
LAA 3351L Landscape Architectural Design 2	5
LAA 3421 Landscape Construction 2	4
ORH 3514C Ident. Basic Ornamental Plants	4
Elective	4
	17
LAA 3352L Landscape Architectural Design 3	5
LAA 3510 Planting Design	5
LAA 3530 Landscape Management (or Elective)	4
Elective	4
	18
	52

FOURTH YEAR	Credits
LAA 4355L Advanced Landscape Architectural Design 1	8
LAA 4410 Design Implementation	4
Elective	4
	16
LAA 4356L Advanced Landscape Architectural Design 2	8
LAA 4210 Professional Administration	5
Elective	4
	17
LAA 4357L Advanced Landscape Architectural Design 3	8
LAA 4930 Senior Seminar	3
Elective	4
	15
	100

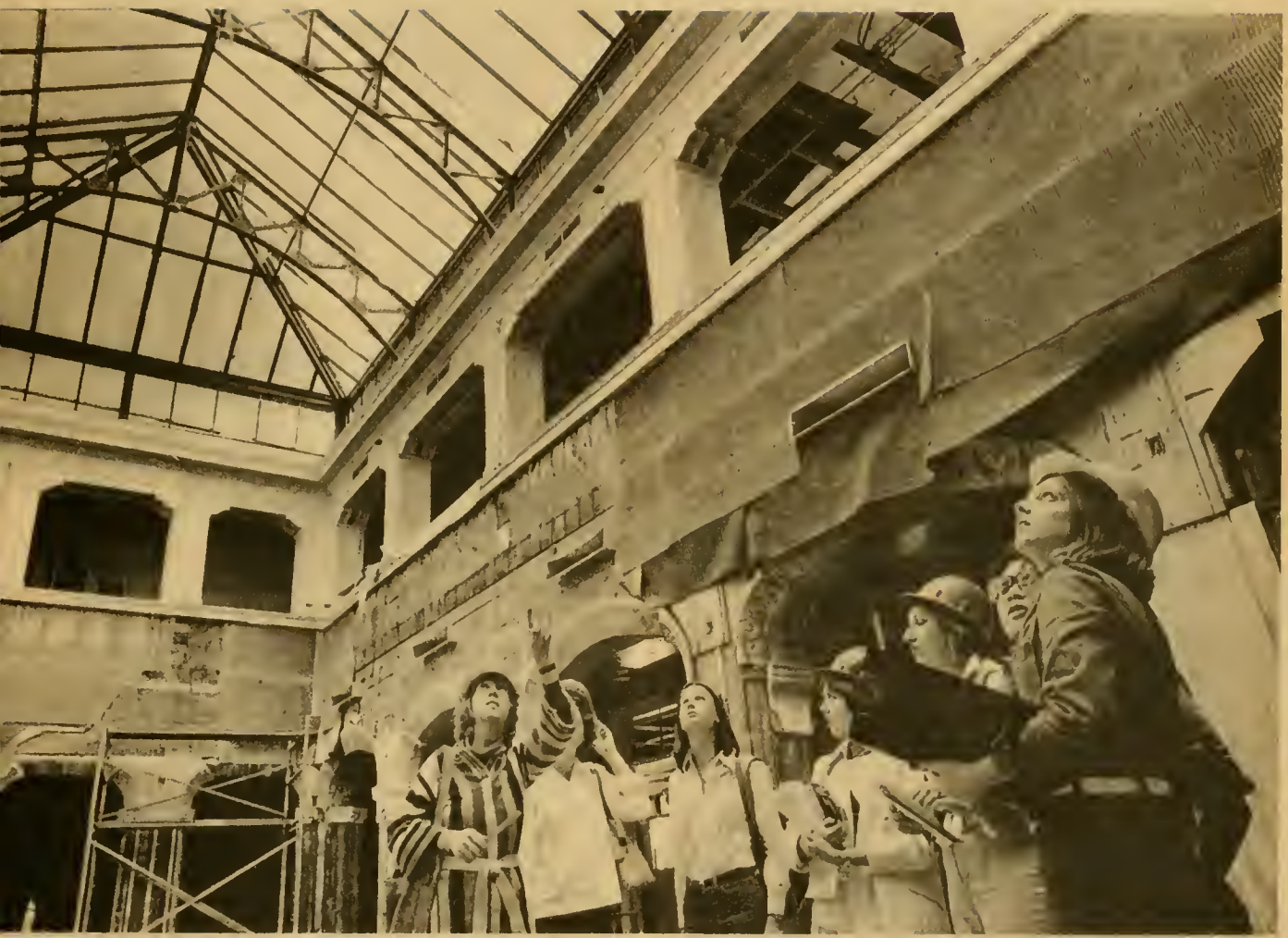
*A week-long field trip is required of all Junior and/or Senior level students. 24 credit hours of upper division elective hours are required. Students may elect the Minor Certificate Program in Environmental Studies. Internship is available for elective credit.

Students should plan to have adequate funds available for the required field trip. It may be necessary to assess studio fees to defray increasing costs of base maps and other generally used materials.

IV. CURRICULUM IN BUILDING CONSTRUCTION

(See The School of Building Construction)

School of Building Construction



The School of Building Construction

GENERAL STATEMENT

The School of Building Construction was established in 1976 but a curriculum in Building Construction in the College of Architecture has been offered continuously since 1935. While a few programs were begun before that, none of them are still in operation today.

The UF program in 1977 was recognized by the Associated General Contractors Education and Research Foundation as outstanding in the United States.

Graduates of the UF School of Building Construction begin work immediately as project managers, field engineers, project planners, cost engineers, assistant superintendents, cost analysts and controllers.

The school has an undergraduate enrollment of 250 plus 30 students working toward a graduate degree. No other school, including 268 junior colleges teaching construction, has as many students and only one other university offers graduate work.

SCHOLARSHIPS AND ASSISTANTSHIPS

Information about general financial aid can be obtained from the Director of Student Financial Aid, University of Florida, Gainesville, Florida. Information concerning scholarships available specifically for third and fourth year Building Construction students can be obtained from the School.

HONORARY AND PROFESSIONAL ORGANIZATIONS

SIGMA LAMBDA CHI

The purpose of Sigma Lambda Chi is to recognize outstanding students in Building Construction for scholastic achievement and extra curricular activities. Quarterly membership averages 35 active members. Sigma Lambda Chi provides services to BCN students through academic scholarships, and construction plans for estimating and quantity surveying coursework. Sigma Lambda Chi also allows for a channel of communication between students and outstanding alumni in the construction industry.

AMERICAN INSTITUTE OF CONSTRUCTORS

The Student Chapter of the American Institute of Constructors is a professional organization which serves as a bridge between students and professional constructors.

Membership is open to all Building Construction majors—both undergraduate and graduate students.

STUDENT CONTRACTORS AND BUILDERS ASSOCIATION

The purpose of the Student Contractors and Builders Association is to better the student's awareness of the construction industry, and to promote the School of Building Construction to both the industry and the community. Any Building Construction student can, and is encouraged to become a member.

The activities of this organization include inviting guest speakers, organizing the Homecoming festivities, operating the Building Construction test bank, carrying out community service projects, and having quarterly social gatherings.

PROGRAM OF STUDY

This four year program is for students who are interested in preparing for professional careers in construction science, management, techniques, operations, products research, and related areas in the construction industry rather than in architectural and engineering design. Graduate programs leading to the degrees of Master of Science in Building Construction and Master of Building Construction are offered.

The Freshman and Sophomore program of study is designed to provide easy transfer for junior and community college Associate of Arts graduates. Equivalent transfer courses in these first two years are available at many junior and community colleges. Thus, with proper course planning transfer students with A.A. degrees may complete the four-year degree program in six or seven remaining quarters at the University. Prospective junior and community college transfer students should consult their advisers or write to the School of Building Construction for a pre-Building Construction program of local study.

The construction industry and its related fields are in dire need of young men and women educated in the arts of communications and interpersonal relations and in areas of construction science, management, techniques, and operations. This curriculum provides education in all these areas.

Students are especially attracted to construction because of the creative excitement, the challenging and rewarding opportunities offered, and the sense of tangible accomplishment. Opportunities for advancement and increasing responsibilities are unlimited in all areas of the industry, a few of which include land development; home building; public building; industrialized building systems; commercial, industrial, marine and heavy construction; underwater and space age facilities; materials and equipment distribution sales and installations; construction product research, development, sales, and applications. Typical company titles of jobs accepted by graduating seniors are: project planner, cost engineer, project scheduler, and cost analyst.

REQUIREMENTS FOR ADMISSION

The University of Florida and the School of Building Construction encourage applications from qualified students from all cultural, racial, religious, and ethnic groups. Listed below are the specific requirements for admission to this School.

College of Liberal Arts and Sciences Students: To be eligible for admission to the School of Building Construction, a College of Liberal Arts and Sciences student must have completed at least 50 quarter credits of preprofessional courses and have a 2.0 average. Acceptance to the School of Building Construction will be based upon the prerequisite courses completed.

Transfer Students: To be eligible for admission to the School of Building Construction, a transfer student must satisfy the minimum requirements for admission that are set forth in the transfer admissions section below.

Additionally, the applicant should complete, as far as possible, the courses required for the desired curriculum as indicated in the program for the Freshman and Sophomore years in the University College section. A minimum of 50 quarter credits of preprofessional courses must be completed prior to admission to the School of Building Construction.

A. Students attending four year colleges, who wish to transfer after two years, should follow a program of general education and preprofessional courses similar to the basic curriculum for the Freshman and Sophomore years for students desiring to enter the School of Building Construction which is outlined in the College of Liberal Arts and Sciences section of this catalog. Prerequisite courses in building construction subjects during the first two years

should be completed as indicated in paragraphs B. 3 and B. 4 below.

B. Junior College and Community College students should:

1. Complete the university transfer program at the junior college.

2. Complete the general education requirements established for the junior college.

3. Complete, insofar as possible, all of the following courses which are a prerequisite to any advanced professional work in the School: MAC 1132 Algebra & Trigonometry; BCN 1210 Construction Materials: MAC 2223 Analytic Geometry & Calculus; PHY 2002 Applied Physics; PHY 2003 Applied Physics; ARC 1126 Architectural Drawing or EGN 1111 Engineering Drawing; BCN 2400 Construction Mechanics I; GLY 2026 Engineering Geology.

4. Complete the following courses before entering the School of Building Construction: ENC 3351 Business Communications; ACC 2001 Accounting; ECO 2013 Economics.

Provisional Admission: Within space limitations, students who do not meet precisely the admission requirements indicated may be granted provisional admission to the School of Building Construction. The Director of the School of Building Construction will specify the courses to be completed and minimum grade points to be earned by the student during the term of his provisional admission. Provisional status will be removed and the student fully admitted to the School of Building Construction provided he fulfills the conditions set forth in his provisional admission. The student will be excluded from further enrollment in the School of Building Construction if he fails to satisfy the conditions of his provisional admission.

GENERAL REGULATIONS

Student Responsibility: The student must assume full responsibility for registering for the proper courses and for fulfilling all requirements for his degree. He is also responsible for completing all courses for which he is registered.

Courses may be dropped with advisor approval until the end of the first week of the quarter without petitioning. After the first week courses may be dropped or changed without penalty only through the administrative office of the School (by petition) and the Registrar.

Seniors must file formal application for a degree in the Office of the Registrar early in the quarter in which they expect to receive the degree. The official calendar shows the latest date on which this can be done.

Normal Loads: The average course load in the School of Building Construction is 15 credit hours. A student may be permitted to register for additional hours if in the opinion of his academic adviser, his academic record justifies this. Students who wish to take less than 12 hours should be aware that certain university privileges and benefits require a minimum registration. It is the student's responsibility to verify the minimum registration necessary for these benefits.

Residence: The last 92 quarter hours to be applied toward a degree must be completed in residence in the School of Building Construction. In any case, no student may take more than nine quarter credit hours by extension or correspondence among the 92 quarter credits of upper-division work required for the baccalaureate degree.

PROBATION AND SUSPENSION: Students who do not make satisfactory academic progress may be excluded from further registration.

GRADUATION REQUIREMENTS:

To receive the degree Bachelor of Building Construction a student must satisfactorily complete the following:

1. 93 quarter hours of lower division requirements.
2. The approved program in Building Construction.
3. Elective requirements

A minimum of 185 quarter hours is required for graduation. The waiving of any required course does not reduce the hours required for graduation. A student must maintain an overall average of 2.0, and a 2.0 average on all courses which count toward his or her upper-division degree requirements.

DEAN'S LIST AND GRADUATION WITH HONORS OR HIGH HONORS

A student who carried 14 hours per quarter with a grade point average of 3.5 will have his name placed on the Dean's list for that quarter.

To graduate *WITH HONORS*, a student must make at least a 3.2 average on all course work accepted as Upper Division credit and all course work (except as noted below) attempted while registered in the Upper Division. To graduate *With High Honors*, a student must make at least a 3.5 average on all work accepted as Upper Division credit and all course work (except as noted below) attempted while registered in the Upper Division. In calculating requirements for graduating *With Honors* or *With High Honors*, the following policies are followed: the student must have completed at the University of Florida at least 92 quarter hours of Upper Division credit toward a degree in Building Construction, transfer credits and S-U grade credits being excluded; and credits for Lower Division courses taken while registered in Upper Division will also be excluded.

GRADUATE DEGREES AND ADMISSION TO GRADUATE WORK

Courses are offered in the School of Building Construction leading to the degree Master of Building Construction or Master of Science in Building Construction. For requirements for these degrees and for admission to Graduate School, consult the Graduate School Catalog.

CURRICULUM

The upper division curriculum in Building Construction requires 92 quarter hours.

UPPER DIVISION REQUIREMENTS

JUNIOR YEAR	*Credits*
BCN 3256 Construction Drawing	2
BCN 3401 Construction Mechanics 2	5
BCN 3223 Construction Techniques 1	5
BCN 3281L Construction Methods Lab (Surveying)	3
BCN 3431 Structures 1	4
BCN 3224 Construction Techniques 2	5
BUL 4112 Business Law	5
COP 3110 Introduction to Computer Programming	2
BCN 3461 Structures 2	4
BCN 3225 Construction Techniques 3	5
BCN 3611 Quantity Surveying	4

SENIOR YEAR	*Credits*
BCN 4462 Structures 3	4
BCN 4621 Construction Estimating	4
BCN 4500 Environmental Techniques 1	4
BCN 4700 Construction Management 1	4
BCN 4012 History of Construction	4
BCN 4521 Environmental Techniques 2	4
BCN 4750 Construction Management 2	4
BCN 4720 Construction Planning & Control	4
BCN 4751 Site Development	4
BCN 4510 Environmental Techniques 3	4
BCN 4710 Construction Management 3	4
Elective	4

BUSINESS ADMINISTRATION

The College of Business Administration

ACCOUNTING
(See School of Accounting)
COMPUTER AND INFORMATION SCIENCES
FINANCE, INSURANCE, & REAL ESTATE
& URBAN LAND DEVELOPMENT
ECONOMICS
MANAGEMENT
MARKETING

The College of Business Administration

GENERAL STATEMENT

The College of Business Administration of the University of Florida was organized in 1926-27. The divisions of the College are: School of Accounting; Department of Economics; Department of Finance, Insurance, Real Estate and Urban Analysis; Department of Management; Department of Marketing; and Bureau of Economic and Business Research.

The College of Business Administration has broad objectives; to provide the foundation for competent, responsible participation in business, the professions and government; to stimulate interest in social, economic and civic responsibilities; to develop competence in making business decisions and in evaluating policy; to offer fields of specialization in business or economics, and, especially, to encourage intellectual inquiry.

Specific arts and detailed information are necessary parts of the curriculum, but the guiding principle of this College is to stress broad fundamentals in terms of the above objectives, and to prepare the student to develop subsequent specialization. To this end, every curriculum of the College is constructed around a core of courses in economics and the major functional areas of business.

The College also has other functions. It contributes to knowledge through the research activities of its faculty and students. Graduate programs are provided for advanced students and prospective teachers in business administration and economics. The College participates in program of adult education both on and off campus. It recognizes its responsibilities to students in other colleges of the University by giving them an opportunity to complement their education with courses in economics and business administration.

The College maintains a computer facility for instructional and research purposes. Advanced students also have access to the University Computing Center, which contains high capacity equipment.

SCHOLARSHIPS AND ASSISTANTSHIPS

Scholarships are available for students in Business Administration. Full information about these scholarships may be obtained from the Director of Student Financial Aid, University of Florida, Gainesville, Florida.

Graduate assistantships and fellowships are available for students working toward the degrees of Master of Business Administration, Master of Arts, and Doctor of Philosophy. Information about these assistantships may be obtained from the Director of Graduate Studies, College of Business Administration, University of Florida, Gainesville, Florida.

BUREAU OF ECONOMIC AND BUSINESS RESEARCH

There is established in the College of Business Administration a Bureau of Economic and Business Research. One of the major purposes of this Bureau is to carry out research undertakings designed to contribute to economic and business knowledge, with primary emphasis upon the economy of Florida and the Southeast. A second major aim is the functional participation of the faculty members of the Bureau staff in the curriculum for graduate training offered by the College of Business Administration and in this way to provide opportunity for graduate students to engage in specific research projects. From time to time work is undertaken which permits a similar opportunity for undergraduate students.

The Bureau publishes the results of its research undertakings as these are completed. It also issues periodically a publication, *Economic Leaflets, and Business and Economic Dimensions.*

The Bureau is a member of the Associated University Bureaus of Business and Economic Research.

MEMBERSHIP IN NATIONAL AND REGIONAL ASSOCIATIONS

The College of Business Administration is a member of the American Assembly of Collegiate Schools of Business, the Southern Economic Association, the Southern Business Administrative Association and the National Retail Merchants' Association. Its baccalaureate and MBA programs are accredited by the American Assembly of Collegiate Schools of Business.

BETA GAMMA SIGMA

Election to this national honorary society is based on scholarship and character. It fills the place in education for business that the society of Phi Beta Kappa holds in the field of classical education. Duly elected members have the right to wear the *insigne* of the society — the Beta Gamma Sigma gold key. For further information apply to the Office of the Dean.

PROFESSIONAL ORGANIZATIONS AND CLUBS

There are five professional fraternities which elect members from students in the College of Business Administration. These are Alpha Kappa Psi and Delta Sigma Pi in commerce and business, Omicron Delta Epsilon in economics, Phi Chi Theta for business women, and Rho Epsilon in real estate. Several clubs also give students with specialized interest an opportunity to participate in their activities.

WOMEN IN BUSINESS

Rapidly increasing opportunities exist for women graduates in many business fields. Illustrative areas are marketing, banking, accounting, economic analysis, insurance, real estate, personnel administration, statistics and investments.

REQUIREMENTS FOR ADMISSION

The University of Florida and the College of Business Administration encourages applications from qualified students from all cultural, racial, religious, and ethnic groups. Listed below are the speciific requirements for admission to this college. It should be understood however that minimum requirements are given and that admission to this college is a selective process. The satisfaction of minimum requirements does not automatically guarantee admission. A student's total record including educational objective, pattern of courses previously completed, quality of previous academic record, and test data will all be considered in evaluating an application for admission. Priority in admission will be given to those applicants whose potential on the basis of their total record indicates the greatest likelihood of success in the program requested.

College of Liberal Arts and Sciences Students: To be eligible for admission to the College of Business Administration, a student must have completed at least one quarter at the University of Florida. Acceptance to the College of Business Administration will be based upon the University of Florida grade point average earned and prerequisite courses completed.

Transfer Students: To be eligible for admission to the College of Business Administration, a transfer student must satisfy the minimum requirements for admission that are set forth in the transfer admissions section below. Additionally, the applicant should complete, as far as possible, the courses required for the desired curriculum as indicated in the program for the Freshman and Sophomore years in the College of Liberal Arts and Sciences section. Completion of these courses and receipt of an AA degree does not guarantee acceptance to the College of Business Administration. Acceptance to the College of Business Administration will be based upon prerequisite courses completed and the student's earned grade point average.

A. Students attending four year colleges, who wish to transfer after two years, should follow a program of general education and preprofessional courses similar to the Basic Curriculum for the Freshman and Sophomore years for students desiring to enter the College of Business Administration which is outlined in the College of Liberal Arts and Sciences section of this catalog. Prerequisite courses in business subjects during the first two years should be completed as indicated in paragraphs B.3 and B.4 below. Courses should not be taken during the first two years which are offered only at the upper division level at the University of Florida.

B. Junior College and Community College students should:

1. Complete the university transfer program at the junior college.

2. Complete the general education requirements established for the junior college.

3. Complete, insofar as possible, all of the courses which are prerequisities to any advanced professional work in the College. For specific courses required for a given major see listing in University College section of this Catalog.

4. Complete the one-year course in accounting and/or economics at the junior college. Differences in the order of presenting material in basic one year courses make it highly undesirable to take parts of such courses in different institutions.

5. Choose elective courses needed to complete the total 64 semester hours in the university transfer program from such areas as mathematics, natural sciences, social sciences, foreign language, and humanities.

6. Avoid professional coursework that is available at the University of Florida only as 3rd and 4th year courses. TRANSFER STUDENTS ARE ADVISED TO AVOID SUCH COURSES AS BUSINESS LAW, PRINCIPLES OF MARKETING, PRINCIPLES OF MANAGEMENT, PRINCIPLES OF INSURANCE, PRINCIPLES OF REAL ESTATE, PERSONNEL MANAGEMENT, PRINCIPLES OF OF FINANCE, AND COMPUTER MANAGEMENT COURSES. A maximum of six quarter credits may be allowed for courses taken during the first two years which are available only as third and fourth year professional courses in the College of Business Administration.

Any credit granted for such work will be in the form of undistributed elective credit without reference to specific courses taken, but in no case may such courses be in the student's major field. In the case where a student wishes to waive a core course and substitute a community college course, waivers may be granted on an individual basis but the student will be required to take another course in the area being waived. The course will be specified by the Department Chairman of the area.

Provisional Admission: Within space limitations, students who do not meet precisely the admission requirements indicated in the appropriate section above may be granted provisional admission to the College of Business Administration. The Dean of the College of Business Administration will specify the courses to be completed and minimum grade points to be earned by the student during the term of his provisional admission. Provisional status will be removed and the student fully admitted to the College of Business Administration provided he fulfills the conditions set forth in his provisional admission. The student will be excluded from further enrollment in the College of Business Administration if he fails to satisfy the conditions of his provisional admission.

GENERAL REGULATIONS

STUDENT RESPONSIBILITY: The student must assume full responsibility for registering for the proper courses and for fulfilling all requirements for his degree. The student is also responsible for completing all courses for which he/she is registered.

Seniors must file formal application for a degree in the Office of the Registrar early in the quarter in which they expect to receive the degree. The official calendar shows the latest date on which this can be done.

NORMAL LOADS: The average course load in the College of Business Administration is 15 credit hours. A student may be permitted to register for additional hours if in the opinion of the academic adviser and the Dean, the student's academic record justifies this. Students who wish to take less than 12 hours should be aware that certain university privileges and benefits require a minimum registration. It is the student's responsibility to verify the minimum registration necessary for these benefits.

RESIDENCE: The last 45 quarter hours to be applied toward a degree must be completed in residence in the College of Business Administration. In special cases this requirement may be waived if the student has a 2.9 average or better, and his petition to take non-resident work has been approved in advance by the faculty of the College. In any case, no student may take more than nine quarter credit hours by extension or correspondence among the 90 quarter credits of upperdivision work required for the baccalaureate degree; and such work must have prior approval for each individual student by the Petitions Committee of the College. However, courses to be included in the major field may not be taken by extension, by correspondence, or at another university for transfer.

SATISFACTORY-UNSATISFACTORY GRADE OPTION: An undergraduate student in the College of Business Administration may take on the S-U basis only those courses which will be counted as free electives in fulfilling the requirements for the BSBA degree.

PROBATION AND SUSPENSION: Students who do not make satisfactory academic progress may be excluded from further registration.

GRADUATION REQUIREMENTS:

To graduate from the College of Business Administration a student must satisfactorily complete the following:

1. 96 quarter hours of lower division requirement.

2. A College approved program in his major field of study.

3. Elective requirements outside the student's major field (a maximum of thirteen quarter hours may be specified by major department).

A minimum of 186 (193 for Accounting) quarter hours is required for graduation. The waiving of any required course does not reduce the hours required for graduation. A student must maintain an overall average of 2.0 and a 2.0 average on all courses which count toward the upper division degree requirements. (Accounting majors must also maintain a 2.0 average on all major course work.)

DEAN'S LIST AND GRADUATION WITH HONORS OR HIGH HONORS:

A student who carries 14 hours per quarter with a grade point average of 3.5 will have their name placed on the Dean's list for that quarter.

To graduate *With Honors*, a student must make at least a 3.2 average on all course work accepted as Upper Division credit and all course work (except as noted below) attempted while registered in the Upper Division. To graduate *With High Honors*, a student must make at least a 3.6 average on all work accepted as Upper Division credit *and* all course work (except as noted below) attempted while registered in the Upper Division. In calculating requirements for graduating *With Honors* or *With High Honors*, the following policies are followed: the student must have completed at the University of Florida at least 60 quarter hours for Upper Division credit toward a degree in Business Administration, transfer credits and S-U grade credits will be excluded; and credits for Lower Division courses taken while registered in the Upper Division will be excluded.

GRADUATE DEGREES AND ADMISSION TO GRADUATE WORK

Courses are offered in the College of Business Administration leading to the degree of Master of Business Administration Master of Arts, and Doctor of Philosophy. For requirements for these degrees and for admission to Graduate School, consult the *Graduate School Catalog.*

CURRICULUM IN BUSINESS ADMINISTRATION

The upper division curriculum in Business Administration requires 90 quarter credits. The program centers around a core which is required of all students. In addition, each student is required to select one of the eight major fields as an area of concentration. The pattern of the Upper Division requirements is as follows:

UPPER DIVISION CORE REQUIREMENTS

Courses	Credits
QMB 3700 Quantitative Methods for Business and Economic Analysis	5
*ECO 3251 National Income Determination and Policy	5
*ECO 3100 Prices and Markets	3
FIN 3403 Business Finance	4
MAN 3010 Principles of Management	4
MAR 3023 Principles of Marketing	4
Total Core Requirements	25

*Students majoring in Economics are required to register for ECO 4205 and ECO 4101 instead of ECO 3251 and ECO 3100.

OTHER UPPER DIVISION REQUIREMENTS

In addition to the upper division core just described each student must follow the curriculum pattern indicated below:

MAJOR FIELD

Required courses are listed under the appropriate "major" headings, beginning in the next section. Minimum requirements range from 18 to 28 hours depending upon major.

FREE ELECTIVES

Electives may be within or outside the College of Business Administration, but must be outside the major field. A maximum of thirteen hours may be specified by major department. Maximum of 9 credits in Advanced Military Science may be counted toward free elective credit.

I. ACCOUNTING

(For Bachelor of Science in Accounting Degree Requirements, See Listing Under School of Accounting).

II. COMPUTER AND INFORMATION SCIENCES

This curriculm is designed to prepare students for technical and managerial positions in science in public and private organizations. The curriculum emphasizes three aspects pertinent to the student's professional career; the functions to which computers are applied in organizations, the professional skills for the design of computing applications, and the decision-making techniques for the efficient and effective utilization of computing resources.

Courses	Credits
CIS 4300 Information Resources	4
CIS 4321 Introductory MGT Systems	4
COP 3121 Data Processing Languages	4
Balance of 14 to 16 credits in courses numbered above COC 3110 with the exception of CIS 4949	14-16
Total	26-28

Students majoring in CIS are required to take the following courses:

ACC 4741 Info. systems for Management Planning & Control	4
QMB 4703 Managerial Operations Analysis III	4
Free electives in the College of Business Administration or elsewhere	29-31
Total	37-39

III. ECONOMICS

This curriculum is designed to provide students with a basic core of courses in Economics, while, at the same time, enabling them to select their electives from among a wide variety of courses adapted to their needs and interests.

The economics major is required to substitute ECO 4205 and ECO 4101 for ECO 3251 and ECO 3100 in the College of Business core program. In additlon, the major must complete 18-28 credit hours of economic electives elected from courses numbered 3000 or above. Three courses must be selected from the list below.

	Credits
ECO 3213 Money and Banking	4
ECO 3703 International Economics	5
ECO 4935 Senior Seminar in Economics	3
ECO 4504 Public Finance	4
ECP 4403 Government Regulation of Business	5
ECO 4633 Development of Modern Western Economy	5
ECO 4634 Development of Modern Western Economy	5
ECO 4622 United States Economic Development	5

For further information, contact a departmental adviser, Room 110, Matherly Hall.

IV. FINANCE

This curriculum is designed to give students a broad background in the business finance function with emphasis on analysis and the decision making process. The curriculum provides a general academic base in finance which can be useful for decision-makers in all aspects of business as well as more specialized courses that may be of interest to those students considering careers in commercial banking or other types of financial institutions. Students desiring a major in Finance must achieve a grade of C or better in the Core Finance Course, FIN 3403, Business Finance.

Courses	Credits
*FIN 4244 Money and Capital Markets	4
FIN 4414 Business Finance Topics	4
FIN 4504 Investments	4
and at least two of the following four courses:	
*FIN 4313 Financial Management of Financial Institutions	4
*FIN 4424 Applied Business Finance	4

*FIN 4514 Investment Analysis 4
*FIN 4604 International Finance 4
Total 20

*Students are advised to complete the quantitative requirements before registering for these courses. The student is required to take the following courses as a part of "electives":

BUL 4100 or BUL 4112 Business Law 5
COP 3210 Computer Programming 2
and a minimum of four additional hours of
Business Administration courses 4
Required Electives 11

V. INSURANCE

The primary objective of the curriculum in risk and insurance is an understanding of risk—its varied forms, sources, and methods of treatment. The curriculum stresses decision making necessary in the management of personal, commercial, and social risks.

The courses provide useful background for business and non-business majors alike, whose interests require an understanding of the nature of risk and its treatment. Students who major in this program are prepared to seek positions in the administration of risk management programs of business and government, and the insurance industry.

Courses	*Credits*
RMI 3015 Risk and Insurance	4
RMI 4305 Risk Management	5
RMI 4135 Group Insurance and Pension Plans	5
Plus one of the following courses:	
FIN 4313 Financial Management of Financial Institutions	4
FIN 4504 Investments	4
RMI 4805 Estates, Trusts, and Insurance	4
Total	18

Students majoring in insurance are required to take the following courses as a part of "electives":

BUL 4100 or BUL 4112 Business Law 5
COP 3110 Introduction to Computer Programming 2
Required Electives 7

VI. MANAGEMENT

This curriculum is designed for students interested in overall management problems, industrial management, industrial relations or personnel management. By selection of appropriate courses, a student may obtain a solid basis of quantitative analysis of business and/or organizational behavior.

Courses	*Credits*
MAN 3151 Foundations of Organizational Behavior	4
MAN 4720 Business Policy	4
MAN 4310 Problems in Personnel Management	4
QMB 4703 Managerial Operations Analysis 3	4
and three additional courses from among the following:	
MAN 4052 Management Philosophy and Practice	4
MAN 4109 Applications of Organizational Behavior	4
MAN 4410 Collective Bargaining	4
MAN 4600 International Management	4
MAN 4720 Business Policies	4
QMB 4701 Managerial Operations Analysis 1	4
QMB 4702 Managerial Operations Analysis 2	4
Total	28

Students majoring in Management are required to take the following course:

SPECIFIED ELECTIVE

COP 3210 Computer Programming Using FORTRAN 2
Specified Electives 2

VII. MARKETING

This curriculum is designed to develop an understanding of the marketing and distribution system for goods and services, the social and economic forces which act on that system and on the determinants of consumer choice behavior. The program emphasizes analytical and behavioral science approaches to marketing management and consumer behavior.

Courses	*Credits*
MAR 3503 Consumer Behavior	4
MAR 4613 Marketing Research	4
MAR 4713 Marketing Management	4
and any three or four of the following courses:	
MAR 3203 Marketing Channels	4
MAR 4153 Retail Management	4
MAR 4213 Physical Distribution Management	4
MAR 4243 International Marketing	4
MAR 4303 Promotion Management	4
MAR 4403 Sales Management	4
MAR 4614 Advanced Marketing Research	4
MAR 4933 Special Topics in Marketing	4
Total	24-28

Students majoring in Marketing are required to take the following course:

COP 3110 Introduction to Computer Programming 2
Required Electives 2

VIII. REAL ESTATE

This curriculum is designed to prepare students as real estate analysts. With this background graduates can enter a real estate business, a real estate department of a regional or national firm, a financial institution, or a state or federal governmental agency. Many graduates enter a specialized branch of real estate such as appraising, investment analysis, consulting, property management, mortgage lending, or marketing. The program stresses the use of modern concepts and technology in the solution of practical real estate problems.

Courses	*Credits*
REE 3043 Real Estate Analysis	5
REE 4100 Real Estate Valuation	4
REE 4204 Real Estate Financial Analysis	4
REE 4310 Real Estate Investment	4
REE 4430 Real Estate Law	4
REE 4704 Urban Land Use Analysis	4
Total	25

The student is required to take two courses from the following list, totaling at least 7 hours.

Course	*Credits*
ANT 2402 Anthropology and Modern Life	5
BCN 1210 Construction Materials	4
EGN 4822 Engineering and Public Works	3
ECP 5614 Urban Economics	
Prereq.: ECP 2013-2023 and permission	5
FOR 2003 Introduction to Forestry	3
GEO 3270 Geography of Florida	4
GEO 4124 Air Photo Interpretation	
Prereq.: GEO 3200 or permission	5
GEO 3602 Urban Geography	4
MAR 3503 Consumer Behavior	
Prereq.: MAR 3023	4
MAR 4613 Marketing Research	
Prereq.: MAR 3023, QMB 3700	4
POS 3144 Urban Politics	
Prereq.: POS 2041	5
Required electives	7-10

College of Dentistry

The College of Dentistry is one of the six colleges which constitute the J. Hillis Miller Health Center. The College of Dentistry, as well as the other units of the Health Center, is an integral component, both geographically and functionally, of the University of Florida. Many conjoint projects between the College and other units of the Health Center and University have been formulated and implemented.

The 1957 Florida Legislature authorized the development of a College of Dentistry in Gainesville, but it was not until the late 1960's that faculty members were recruited and program development initiated.

The thirteen departments which make up the College of Dentistry are Basic Dental Sciences, Community Dentistry, Dental Biomaterials, Dental Education, Endodontics, Occlusion and Fixed Prosthodontics, Operative Dentistry, Oral Medicine, Oral and Maxillofacial Surgery, Orthodontics, Pediatric Dentistry, Periodontics, and Removable Prosthodontics. A modular curriculum has been developed based on multidisciplinary teaching by these departments. The curriculum is designed to permit students the maximal degree of flexibility and individualization in their program. It is a competency-based curriculum in which behavioral objectives, rather than time, serve as the primary guidelines for student advancement. The length of time in the curriculum is flexible but students must complete at least one-sixteenth of the total curriculum each quarter. It is planned so that outstanding students should be able to complete the program in approximately three calendar years. Self-instruction constitutes a significant part of the teaching methodology.

The goals of this College are to prepare the graduate to enter private dental practice, to enter graduate programs of any of the dental specialties, to enter into research activities, and to be prepared for a lifetime of continuing education.

The Dental Sciences Building was first occupied in August, 1975, and was officially dedicated March 6, 1976. The first class of students was graduated in 1976. The College offers the Doctor of Dental Medicine (D.M.D.) degree. (The D.M.D. and D.D.S. degrees are synonymous.) The College presently offers Advanced Educational programs in Dental Public Health, Oral Pathology, Orthodontics, and Periodontics. In addition, a one-year General Practice Residency program and a three-year Oral and Maxillofacial Surgery Residency program are available.

The College of Dentistry aspires to attract students of the highest caliber into its various programs. High standards of scholastic achievement, moral character, and motivation are expected of the applicant. The student of dentistry must possess a high basic aptitude supplemented by an academic preparation of the highest order because of the vast area of science which must be mastered by the dentist. The highly personal relationship between patient and dentist places the latter in a position of trust, which demands maturity, integrity, intellectual honesty, and a sense of responsibility. A broad representation of the ethnic mixture of the state is sought in the student body through an active recruitment program. The College strictly adheres to the principle of ethnic, racial, religious and social equality among its student body and faculty.

Generally, students applying for admission should plan to complete the requirements for a bachelor's degree. However, qualified students may be accepted without fulfilling the degree requirements, provided they show evidence of sufficient academic preparation and the personal characteristics necessary for the study of dentistry. Applicants with an overall B average as a minimum will receive strongest consideration for admission to the College of Dentistry. A limited number of out-of-state students, in proportion to the number in the University as a whole, may be admitted. Applicants should initiate the application process approximately fifteen months prior to anticipated enrollment by submitting an application through the centralized American Association of Dental Schools Application Service (AADSAS), P.O. Box 4000, Iowa City, Iowa 52240.

Further detailed information will be found in the College of Dentistry Bulletin. Copies may be obtained by writing to the Office of Admissions, College of Dentistry, University of Florida, Box J-445, JHMHC, Gainesville, Florida 32610.

College of Education

ADMINISTRATION AND SUPERVISION
COUNSELOR EDUCATION
FOUNDATIONS
GENERAL TEACHER EDUCATION
INSTRUCTIONAL LEADERSHIP AND SUPPORT
SPECIAL EDUCATION
SUBJECT SPECIALIZATION TEACHER EDUCATION

College of Education

GENERAL STATEMENT

The College of Education, a professional college, has as its purpose the preparation of qualified personnel for positions in service, leadership, and research in education. The College of Education is the officially designated unit of the University of Florida that is responsible for teacher education programs.

The College has undergraduate programs leading to the preparation and certification of teachers in elementary education, secondary education, and K-12 programs in art and special education (mental retardation). Programs of study in guidance and counseling, school administration, and college teaching are available at the graduate levels only. Undergraduate students interested in these areas will usually complete their bachelor's degree in one of the teaching fields found on the following pages.

Class room teaching is only one of the many careers available to graduates from the College of Education. School administrators, supervisors, counselors, school social workers, school psychologists, attendance workers, speech therapists, and reading clinicians are among the many careers found in education. Other career opportunities for those having degrees in education are in the areas of development and distribution of educational materials, educational television, personnel work, counseling, foreign service, peace corps, as educational specialists and training officers in industry, and in educational research.

The University of Florida teacher education programs are designed to assist students with developing three broad areas of competence: (1) *general preparation* consisting of a background of liberal education; (2) the *professional* sequence consisting of work in psychological and social foundations of education, the school program, and internship or student teaching; and (3) the *teaching field* or specialization in the area of subject matter to be taught.

The College of Education is fully accredited by the National Council for Accreditation of Teacher Education. Graduates from approved programs in teacher education are granted certification to teach in thirty-one (31) states as a recognition of this accreditation.

REQUIREMENTS FOR ADMISSION

The University of Florida and the College of Education encourage applications from qualified students from all cultural, racial, religious, and ethnic groups. Listed below are the specific requirements for admission to this College. It should be understood, however, that minimum requirements are given and that admission to this College is a selective process. The satisfaction of minimum requirements does not automatically guarantee admission. A student's total record, including educational objectives, pattern of courses previously completed, quality of previous academic record, and test data, will be considered in evaluating an application for admission. Priority for admission will be given to those applicants whose potential on the basis of their total record indicates the greatest likelihood of success in the program requested.

Teacher education programs at the University of Florida have been approved by the State of Florida Department of Education. Each teacher education program of an institution of higher learning within the state which has been approved by the Department of Education shall require, as a prerequisite for admission into the teacher education program, that a student receive a passing score, to be established by state board rule, on a nationally normed standardized college entrance examination.

Limitations in available faculty and facilities have made it necessary that the College of Education establish quotas for the admission of new students in certain undergraduate programs. Therefore, eligible applicants will be considered for admission to the College of Education within established quotas.

Students Classified UF: Students classified UF should apply for admission to the College of Education during the quarter in which they are completing 96 hours of work. Applications should be filed in both the Registrar's Office and the College of Education Office of Student Services, Room 134 Norman Hall. Because of limitations in staff and facilities, the College of Education limits the number of admissions to a prescribed quota. To be considered for admission to the College, students will be required to:

1. Complete one of the basic programs outlined in the College of Liberal Arts and Sciences section of the catalog under Education. Students classified UF with transferred credit from other institutions will be required to take comprehensive courses according to the College of Liberal Arts and Sciences regulations.
2. Applicants presenting the best overall credentials in terms of grade point average and other predictive indices are given first priority. When quotas are filled, no additional students can be accepted.
3. Meet minimum standards of physical and mental health.
4. Have the approval of the Committee on Admission of the College of Education. The Committee will review the application of each candidate with respect to qualities considered to be essential for effective teaching. The student is expected to speak and to write the English language effectively.

Transfer Students:

A. From other upper division colleges, University of Florida

University of Florida students desiring to transfer from an upper division college to the College of Education must file applications with both the Registrar's Office and the College of Education Office of Student Services. To be considered for admission applicants will be expected to meet the requirements for admission outlined above for students classified UF.

B. From other institutions

To be eligible for admission to the College of Education, a transfer student must satisfy the minimum requirements for admission to an Upper Division College that are set forth in the ADMISSIONS section of the catalog. Additionally, the applicant must satisfy the following specific requirements for admission to the College of Education:

1. Complete a personal data sheet for permanent records in the College of Education.
2. Meet general preparation requirements (See General Preparation section for College of Education).
3. Applicants presenting the best overall credentials in terms of grade point average and other predictive indices will be given first priority. When quotas are filled, no additional students can be accepted.
4. Meet minimum standards of physical and mental health.
5. Have the approval of the Committee on Admissions of the College of Education. The Committee will review the application of each applicant with respect to qualities considered to be essential for effective teaching. The student is expected to speak and write the English language effectively.

The following information will serve as a guide in expediting transfer of a junior college student to the College of Education in compliance with the above requirements. The junior college transfer student must:

1. Complete the Associate of Arts degree program at the junior college.
2. Complete the general education requirements established for the junior college.
3. Present a satisfactory academic record. Since quotas have been established in certain teaching areas, those students presenting the best overall records will be given first priority.
4. Avoid courses in professional education. All required professional education courses must be taken in the College of Education.

In addition to the above requirements, students are advised to:

5. Complete work in the following areas:

	Semester Hours
English Composition	6
Social Sciences	6
Humanities	8
Mathematics	3
Science (to include work in both physical and biological sciences)	10

6. Choose elective courses to complete the required 64 semester hour total in the university transfer program in the basic areas of general or liberal education fields. Students majoring in secondary education may earn credit in their teaching field at the junior college in courses which are equivalent to the 1000 and 2000 level courses at the University of Florida. Students enrolling in the College of Education are not required to take a foreign language. Students who enroll in Teacher Education in the College of Arts and Sciences must satisfy the foreign language requirements of that College.

7. Complete a course in public speaking.

Provisional Admission: Due to limited faculty and facilities, the College is not able to accept all students who meet its minimum admission requirements. Therefore, the College does not provide provisional admission at the present time.

BASIC SKILLS ASSESSMENT

All College of Education students will take a basic skills assessment examination during their first quarter in the college. This examination includes sections on mathematics, reading and writing. A student must have a successful score on all sections of the basic skills assessment examination prior to admission to the internship experience.

ADMISSION TO PHASES OF THE TEACHER EDUCATION PROGRAM

I. Admission to the Teacher Education Program for students enrolled in the College of Liberal Arts and Sciences.

Students in the College of Liberal Arts and Sciences who wish to enroll in a Teacher Education Program must make application for admission to the program. Application forms may be obtained in Room 2008, GPA, or Room 134 Norman Hall.

Application should be made as soon as possible after admission to the College of Liberal Arts and Sciences; application to the program cannot be made before a student has been accepted into the College of Liberal Arts and Sciences. The student must be admitted to the Teacher Education Program before he can apply for the Advanced Professional Sequence.

The criteria used in considering students from the College of Liberal Arts and Sciences for the Teacher Education Program will be the same as those used for admitting students into the College of Education.

II. Admission to the Advanced Professional Sequence

A student who proposes to enter a Teacher Education Program, whether through the College of Education or one of the cooperating colleges, must be admitted to the Advanced Professional Sequence prior to enrollment in certain professional courses. For K-12 Education programs this is EDE 4203 and ESE 4001; for Secondary Education this is ESE 4001, for Special Education this is at the time of enrollment for the second methods course, and for Childhood Education this is prior to the fourth quarter in the program.

Admission to the Advanced Professional Sequence requires:

1. A special application submitted to the College of Education Office of Student Services, Room 134 Norman Hall, no later than one month prior to the proposed registration for the courses indicated above. Admission to the College of Education is not to be interpreted as automatic admission to the Advanced Professional Sequence.

2. Enrollment in an upper division college.

3. Completion of the general preparation requirements. (See General Preparation).

4. Completion of the speech requirement by successfully completing a public speaking course or by passing the speech screening examination administered by the Speech Department. All English, Language Arts and Health Education students must meet this requirement by completing the speech course.

5. A planned program on file in Room 134, Norman Hall.

6. A picture on file in Room 134, Norman Hall.

7. A "C" average or better.

8. A "C" average, or better, in specific professional courses and in the area of specialization.
Special Education majors, and Secondary Education majors in either the College of Education or the College of Liberal Arts and Sciences should note that no grade less than "C" meets a requirement in the professional education courses or in the field of specialization.

9. Students in Elementary Education and Early Childhood Education must complete successfully a reading screening examination.

III. Admission to Student Teaching in any Teacher Education Program

Assignments to student teaching for each quarter are made by the College of Education Office of Student Services. Students in the College of Education are assigned a quarter for student teaching when they are admitted to the College. Students from the College of Liberal Arts and Sciences are assigned a quarter for student teaching when they are admitted to the Teacher Education Program. Students in other colleges should see the Coordinator of Undergraduate Studies, Room 134 Norman Hall, for a student teaching quarter as early in their junior year as possible. Assignments are made on the basis of a quota which is usually filled at least one year in advance.

Prior to acceptance to student teaching in a Teacher Education Program, a student must have fulfilled the following requirements:

1. Have completed all general preparation requirements.

2. Have satisfied the speech requirement.

3. Have at least a "C" average in all course work at the University of Florida, the area of specialization courses, and professional education courses. Foreign Language majors must demonstrate proficiency in all languages for which they seek certification.

4. Have been admitted to the Advanced Professional Sequence and have completed the following work:

(a) Early Childhood Education — MUE 2402 and MUE 3401; HES 3301 and PET 3462; ENG 4161; EEC 3800, and RED 4147.

(b) Elementary — MUE 2402 and MUE 3401; HES 3301 and PET 3462; ENG 4161; EDE 3804; and RED 4147

(c) Teaching Fields K-12 — EDF 3110; EDE 4203; ESE 4011; at least two-thirds of the coursework in the teaching area in which student teaching is to be done and the following courses:

Art: ARE 4242, ARE 4243, ARE 4244
Health Education: HES 2000, 2001, 3301, 3322, PET 3320, and APB 2170
Music: MUE 3113, 3320, 3030, 4412, 4411 or 4404
Special Education: EEX 3010, EMR 3011, EEX 3220, EMR 3800, EMR 4202, 4330, 4214, SPA 3001
Physical Education: PET 3461 and 4442

(d) Secondary—At least 24 hours in education, including EDF 3135 or EDF 4210, ESE 4011, 4210, and a methods course in the area of specialization, and at least three-fourths of the coursework in the teaching area in which student teaching is to be done.

Students must make special application to the Director of Student Teaching, Room 100 Norman Hall. Applications

must be received no later than October 1 for the Winter Quarter, January 10 for the Spring Quarter, and April 1 for the Fall Quarter.

Students have the responsibility for making arrangements to live in the community where student teaching is to be done and to assume living expenses in addition to regular on-campus expenses.

GRADUATION REQUIREMENTS

To graduate from the College of Education a student must satisfactorily complete the following:

1. 59 quarter hours of general preparation.
2. A College approved program in his major field of study.
3. Required professional education courses appropriate to his field of study.
4. Speech requirement.
5. Successful completion of all sections of the Basic Skills Assessment Examination.

A minimum of 188 quarter hours is required for graduation. A student must maintain at least a 2.0 overall grade point average and have at least a 2.0 average in all professional education courses and in his area of specialization. In the departments of Subject Specialization and Special Education, grades below "C" will not fulfill requirements in either professional education or in the area of specialization.

TEACHER CERTIFICATION

After July 1, 1980, all applicants for initial regular certification in Florida must receive a passing score on a teacher certification examination administered by the State Department of Education prior to certification.

Applicants for Florida teacher certification are available in the College of Education Office of Student Services, 134 Norman Hall.

GENERAL PREPARATION

The minimum requirements in general preparation for majors in Elementary and Early Childhood are:

	Quarter hours
Social Sciences	9
English Composition	9
Humanities	12
Physical Sciences and Biological Sciences	15
Mathematics: MAE 3810, 3811	6
Electives in general preparation	8

The minimum requirements in general preparation for all undergraduate Education Programs other than Elementary Education and Early Childhood Education are:

	Quarter hours
Social Sciences	9
English Composition	9
Humanities	12
Physical Sciences and Biological Sciences	15
Mathematics	4
Electives in general preparation	10

*Five of the six comprehensive science courses or appropriate substitutes are required.

Students classified UF making substitutions and using transfer credit from other institutions will be required to take comprehensive courses according to College of Liberal Arts and Sciences regulations. Students transferring into the upper division of the College of Education as Juniors and Seniors are expected to have completed comparable comprehensive courses or to have taken appropriate substitutes.

PROFESSIONAL EDUCATION

Early Childhood Education Programs Include:	*Credits*
EDE 3800	50
EDE 4943	16
RED 4147	4

Elementary Programs Include:	
EDE 3804	50
EDE 4943	16
RED 4147	4

Special Education (Mental Retardation) Programs Include:	
EDF 3110 or 3122 or 3135 or 4114 or 4210	5
EDF 3514 or 3604 or 4542 or 4710	5
EEX 3010, EMR 3011, EMR 3800, EEX 3220, EMR 4202, 4230, 4214, SPA 3001	35
EEX 4861	16

Music Education Programs Include:	
EDF 3122 or EDF 3135 or EDF 3110	5
EDF 3514 or 3604 or 4542 or 4710	5
EDE 4203 and ESE 4011	9
EDE 4943 and ESE 4943	16

Other Kindergarten through Twelfth Grade Programs Include:	
EDF 3110	5
EDF 3514 or 3604 or 4542 or 4710	5
EDE 4203 and ESE 4011	9
ESE 4943 (Physical Education) (Art)	16
EEX 3010 and EEX 4141 (Speech Therapy)	7

Secondary Education Programs Include:	
EDF 3135 or 4210	5
EDF 3514 or 3604 or 4542 or 4710	5
ESE 4011	5
ESE 4210 and an appropriate methods course	9
ESE 4943 or EVT 4940	16
Elective in Education (College of Education students only)	3-5

ACADEMIC ADVISORY SERVICES

To assist students in their educational and vocational planning the College of Education maintains an Advisory Panel composed of faculty members representing the various teaching fields. In addition to the Advisory Panel other advisory facilities include the College of Education Office of Student Services, and the Placement Service in the Reitz Union.

GENERAL REGULATIONS

PLANNED PROGRAMS

Before the end of the first term of enrollment in the College of Education, the students should plan a program for the remainder of work required for his degree. All planned programs must have the approval of the student's counselor and the Coordinator of Undergraduate Studies.

Each student is responsible for registering for the proper courses and fulfilling all requirements for his degree. Courses can be dropped or changed without penalty *only* upon approval of the counselor, the College of Education Office of Student Services, and the Registrar.

LOADS

Sixteen quarter hours is considered a normal load. A student may be permitted to register for additional hours if, in the opinion of his counselor, the quality of his record justifies this. At the time of registration, a student, with the approval of his counselor, may register for less than sixteen quarter hours if conditions warrant this.

DEADLINES

Graduating Seniors must file an application for a degree in the Office of the Registrar early in the quarter in which they expect to receive the degree. The University calendar shows the latest date on which this can be done.

Students applying to enter the Advanced Professional Sequence must file an application in the College of Education Office of Student Services 30 days prior to registration in these courses.

Student teaching applications are available from the Director of Student Teaching, Room 100, Norman Hall and are due October 1 for Winter student teaching, January 10 for Spring student teaching, and April 1 for Fall student teaching.

RESIDENCE

The last 45 quarter hours to be applied toward a degree must be completed in residence in the College of Education. In special cases this requirement may be waived by petition when a student has completed most of his previous work in upper division of the College of Education.

No part of the teacher preparation program can be taken by correspondence, home study, or extension unless such courses have been planned with the student's upper division counselor and approved by the College of Education Office of Student Services. In addition to these requirements University regulations pertaining to correspondence and extension work apply to College of Education students.

PETITIONS

If a student feels that the College regulations cause a peculiar hardship or injustice in his case, he may petition for waiver of the particular regulation. The student should contact his adviser or the College of Education Office of Student Services regarding this procedure.

UNDERGRADUATE REGISTRATION IN GRADUATE COURSES

With the permission of the instructor, an undergraduate student in the College of Education may enroll in 5000 or 6000 level courses if he has Senior standing and an upper division grade point average of at least 2.8. His registration during any term for which he is enrolled in a graduate course may not exceed 17 hours. Graduate fees are charged for 5000 and 6000 level courses. After a student has been accepted in the Graduate School, up to 10 hours of graduate-level courses earned with a grade of A, B+, or B taken under this provision may be applied toward a graduate degree at the University of Florida provided credit for the course has not been used for an undergraduate degree.

MUSIC ENSEMBLE CREDIT

Undergraduate majors in education may count only 6 hours of music ensemble credit toward graduation.

DEGREES OFFERED

The degrees Bachelor of Arts in Education and Bachelor of Science in Education are offered in the College of Education. The Bachelor of Science in Educaton Degree is granted to students whose area of specialization is in science or mathematics; other curricula lead to the Bachelor of Arts in Education Degree.

HONORS

To graduate from the College of Education with honors, the student will be required to earn on all college work an academic average of 3.2 for honors and an average of 3.5 for high honors. He must have earned at least 90 credits, with the appropriate average, at the University of Florida.

Kappa Delta Pi (men and women) and Pi Lambda Theta (women) are honor societies in education. Membership is by invitation.

SCHOLARSHIP AND LOANS

The College of Education Office of Student Services has information about very limited scholarship and loan funds available in the College of Education. Information regarding other financial aid of undergraduate students may be obtained from the Office of Student Financial Aid.

GENERAL TEACHER EDUCATION

The Early Childhood and Elementary Education Programs are innovative approaches to the professional preparation of educators. The program is based upon four major assumptions: that a person learns best when (1) learning is made personally meaningful and relevant, (2) learning is adjusted to the rates and needs of the individual, (3) there is a great deal of self direction, and (4) there is a close relationship between theory and practice.

Aside from the 29 quarter hours of required courses listed below, there are no courses as such in the Early Childhood Education and Elementary Programs. Instead, each quarter in the program, the student enrolls in the appropriate section of professional studies in education (EEC 3800 or EDE 3804), for a variable number of hours to total 45 by the completion of the program. In addition, the student will register for a total of 16 quarter hours in EDE 4943—Student Teaching in the Elementary School.

Each quarter the professional studies will comprise participation in (a) *seminar* — a small discussion group which gives continuity and direction to the program by providing students with a place to share their meanings and problems in interaction with their peers while building a personal educational belief system; (b) *study of content* selected from among the following areas (each of which must be mastered by graduation) curriculum, language arts, math, reading, science, social studies, art, human growth and development and music. In each areas, students pace their own progress, attend special lectures, participate in small study groups or workshops, and pursue independent study; (c) an *appropriate field experience* carried out in a local public or private school or community agency.

Students' work within the program is graded on a Satisfactory-Unsatisfactory (S-U) basis. The student continues his work in a given learning area until he demonstrates satisfactory competence in the area.

EARLY CHILDHOOD EDUCATION

(Nursery School and Kindergarten)

The program in Early Childhood Education will provide academic and field learning activities which place emphasis on the years between three and six, but extending downward to infancy and upward to age eight, including the areas of prenatal, parenting and family development education. The six-quarter professional program for early childhood education includes:

	Credits
1) Professional Studies in Early Childhood Education (EEC 3800)	45
2) EDE 4943—Student Teaching in the Elementary School	16
3) RED 4147	4
4) EDF 3604—Social Foundations of Education	5
5) Courses taken outside the College of Education:	
MUE 2402—Music Skills	4
MUE 3401—Music for the Elementary Child	5
PET 3462—Elementary School Physical Education for the Classroom Teacher	3
HES 3301—Elementary School Health Program	4
ENG 4168—Literature for Young Child	4

6) Additional elective hours as necessary to meet the minimum graduation requirement of 188 hours, and to have at least 127 quarter hours outside the Childhood Education Program.

ELEMENTARY EDUCATION

(Grades one through six)

The program in Elementary Education will provide academic and field learning activities which place emphasis on the development and teaching of the child from age six through age twelve.

The six quarter professional program for elementary education includes:

	Credits
1) Professional Studies in Childhood Education (EDE 3804)	45
2) EDE 4943—Student Teaching in the Elementary School	16
3) RED 4147	4
4) EDF 3604—Social Foundations of Education	5
5) Courses taken outside the College of Education:	
MUE 2402—Music Skills	4
MUE 3401—Music for the Elementary Child	5
PET 3462—Elementary School Physical Education for the Classroom Teacher	3
HES 3301—Elementary School Health Program	4
ENG 4161—Children's Literature	4
6) Additional elective hours as necessary to meet the minimum graduation requirement of 188 hours, and to have at least 127 quarter hours outside the Childhood Education Program.	

HEALTH EDUCATION/DRIVER EDUCATION AND SAFETY

These are joint programs with the College of Physical Education, Health and Recreation and are designed to prepare teachers (1) to teach health and related health sciences; or, (2) to teach driver and safety education.

HEALTH EDUCATION

Admission: In addition to general education requirements for the major in health education specified in the section on *Curriculum in Health Education,* students should complete as many of the following preprofessional courses as possible during freshman and sophomore years:

HES 2000 Personal and Family Health	4
HES 2001 Community and Environmental Health	4
HES 2400 First Aid and Personal Safety	3
CHM Chemistry	4
SOC 2000 Principles of Sociology	4
PSY 2013 General Psychology	4
APB Microbiology	5

JUNIOR YEAR

EDF 3110 Human Growth and Development	5
EDF 3604 Social Foundations of Education	5
HES 3144 Health Education and Medical Terminology	3
HES 3296 Field Experience in Community Health	4
HES 3301 Elem. School Health Program	4
HES 3431 School and Community Safety Education	3
PET 3320 Applied Human Anatomy	4
PET 3350 Applied Human Physiology	4
Elective Health Sciences	11
Electives for concentration area(s)	7
Total	50

SENIOR YEAR

	Credits
EDE 4203 Elementary School Today	4
ESE 4011 Secondary School Today	5
ESE 4210 Secondary School Curriculum and Organization	4
SCE 4330 Methods and Mtls. for Science	5
HES 4322 Health Education in Secondary Schools	4
ESE/HES Student Teaching/Com. Health Ed. Internship	16
HES/concentration area electives	12
Total	50

DRIVER AND SAFETY EDUCATION

Admission: Those wishing to add Driver and Safety Education to their Florida Teaching Certificate as an additional teaching field may do so by completing the following additional courses:

HES 3431 School and Community Safety Education	3
HES 4450 Driver and Traffic Safety Education	4
HES 4451 Teach. Driver and Traffic Safety Education	4
Total	11

MIDDLE SCHOOL EDUCATION

The Middle School Education Program is a 16-quarter hour block composed of EDM 6005, 4 quarter hours and EDM 6945, 12 quarter hours. Upon successful completion of the program, students will be eligible for Middle School certification in one of the following areas: Language Arts, Mathematics, Science, or Social Studies.

Students interested in Middle School Education should be aware of the extensive prerequisites to this program. These prerequisites include:

1. A course in Reading
2. The successful completion of an undergraduate program in Early Childhood, Elementary, or Secondary Education.
3. At least 15 Quarter hours beyond general preparation requirements in Language Arts, Mathematics, Science or Social Studies.

Specific subject area requirements include:

LANGUAGE ARTS

Grammar: One course from among ENG 3500, ENG 3551, LIN 4400

Composition: One course among ENC 3464, MMC 2100

One course from each of two of the three following areas:

1. AML 2021, AML 3113
2. LIT 3321, ENG 4165
3. SPC 3440, SPC 3601

MATHEMATICS

Required: MAE 3810, 3811, 3812, 3822, 3823.

Electives: MHF 4404, CAP 3800, MGF 2202, MHF 3202, MAS 3203, STA 3013, STA 3023, STA 4404.

SCIENCE

Chemistry: CHM 2040 or 2041 or 2045 or 2046.

Biology: BSC 2012, or ZOO 2010 or 2011.

Physics: PHY 1001 or PHY 2032.

Geology: GLY 2015 or GLY 2100.

SOCIAL STUDIES

At least one survey course in American History.

At least one survey course in the history of one of the following world areas: Western Europe, Russia, Africa, Latin America, Asia.

At least one course from each of two of the following Areas: Anthropology, Political Science, Geography, Sociology, Economics, Social Psychology.

Additional information about the Middle School Program can be obtained in Room 134, Norman Hall.

MUSIC EDUCATION

The College of Education and the College of Fine Arts offer a joint program leading to certification in music educa-

tion for teaching in kindergarten through twelfth grade. Students may enroll either in the College of Education or the College of Fine Arts.

Piano Skills MVK 2111, must be taken each quarter until piano proficiency examination is passed; requirement must be met before application for the Advanced Professional Sequence.

Grades below "C" in MUE 3113, 3030, and MUE 4343 or 4404 or 4411 or 4412 will not fulfill requirements for the B.M.Ed. degree.

A Mid-Point Guidance Conference must be completed before student makes application for the Advanced Professional Sequence.

A student will be allowed to make application for Student Teaching only if he has an over-all grade point average of at least 2.5.

JUNIOR YEAR

Music Performance Area	*Credits*
Applied Principal, including recital	6
MUE 2440, 2450, 2460 Instrumental Skills	6
Ensemble	3
Courses	
MUH 3211, 3212, 3213 History of Music	12
MUE 3113, 3030 Music Education	10
EDF 3122, 3135, or 3110 Education	5
Three courses from PSC 1502, 1510, 1420, APB 2150, 2151, 2153	9
Total	50

SENIOR YEAR

Music Performance Area	*Credits*
MUE 2470 Percussion Skills	2
MUG 4101 Conducting	4
Courses	
MUE 4412 or 4411 or 4404 or 4343 Materials and Administration	4
EDF 3514, 3604, 4542 or 4710 Foundations of Education	5
*EDE 4203 Elementary School Today	4
*ESE 4011 Secondary School Today	5
MGF 1113 and approved electives in science	10
Teaching Internship EDE 4943, ESE 4943 Student Teaching	16
Total	50
Total minimum credits	198

*Advanced Professional Sequence

PHYSICAL EDUCATION

The College of Education and the College of Physical Education, Health, and Recreation offer joint programs to prepare men and women physical education teachers. While enrolled in the Lower Division of Liberal Arts and Sciences all students should complete as many as possible of the following required courses: (See College description of curriculum requirements)

DAE 2320, 2360
HES 2000, 2400
PEO 1011, 1511, 1321, 1521, 2131, 2032, 2121, 2341, 2561, 3621
PEP 1301, 2201, 2131, 2401, 2421
PEQ 1121
PET 3320, 3350, 3590, 3940, 3944
SPC 2300 or 3601

UPPER DIVISION COURSE REQUIREMENTS

General Professional Physical Education Core:

	Credits
PET 3000 Foundations of Physical Education	3
PET 3127 American Physical Education and Sport	3
PET 3340 Kinesiology of Motor Skills	3
PET 3360 Physiology of Exercise and Training	3
PET 3230 Acquisition and Motor Development	3
PET 3640 Physical Education for the Handicapped	3
PET 4510 Measurement and Evaluation with Lab	3
PET 4622 Prevention and Care of Athletic Injuries	3

Professional Physical Education Teaching Core:

	Credits
PET 4410 Administration of Physical Education	4
PET 4442 Physical Education in the Secondary School	5

Professional Education Core:

	Credits
EDE 4203 The Elementary School Today	4
EDF 3110 Human Growth and Development	5
EDF 3604 Social Foundations of Education	5
ESE 4011 The Secondary School Today	5
ESE 4943 Student Teaching	16

Elementary School Specialization:

	Credits
DAE 3370 Rhythmic Activities for Elementary School Children	3
PEO 3041 Games and Sports for Elementary School Children	3
PEP 3203 Educational Gymnastics for Elementary School Children	3
PET 3430 Physical Education Program in the Elementary School	3
PET 4941 Field Experience in Elementary School Physical Education	3

Secondary School Specialization:

	Credits
PEO 3213 Officiating III	1
PEO 3323 Officiating I	1
PEO 3623 Officiating II	1
PET 3462 Elementary Physical Education for the Classroom Teacher	3

Coaching Concentration: (a non-degree program)

	Credits
PEO 3323 Officiating I or PEO 3623 Officiating II or PEO 3213 Officiating III	1
PET 3212 Foundations and Principles of Coaching	3
PET 3340 Kinesiology of Motor Skills	3
PET 3360 Physiology of Exercise and Training	3
PET 3381 Theories of Skill Acquisition and Motor Development	3
PET 4416 Administration of Athletics	3
PET 4622 Prevention and Care of Athletic Injuries	3
PET 4949 Practicum in Coaching	2-6

Selected coaching courses from the following courses: Baseball, Basketball, Football, Golf, Gymnastics, Soccer, Softball, Swimming and Diving, Track and Field, Volleyball and Wrestling.

SPECIAL EDUCATION

The bachelor's degree in special education, with a major area of concentration in mental retardation, is offered through the Department of Special Education.

No course in which the grade earned is below "C" meets a requirement in this program.

Required Upper Division Courses	*Credits*
Introduction to Special Education EEX 3010, EMR 3011, SPA 3001	11
Foundations of Education EDF 3110 (or 3122, 3135, 4144, 4210) and EDF 3604 (or 3514, 4542, 4710)	10
Special Education EEX 3220, EMR 3800, EMR 4202, EMR 4330, EMR 4214	24
Teaching Skills RED 4147, MAE 4350	8
Student Teaching — EEX 4861	16

Competencies

Each of the listed competencies must be achieved prior to internship. The basic skills competencies (#4) must be completed prior to enrollment in EMR 4202. The competencies must be verified in Room 134 by use of the appropriate form to be kept in the student's official folder.

1. First Aid
The student must have a valid current certification in first aid or must have successfully completed HES 2400.

2. Audio Visual
The student must have completed the modules entitled "Equipment Operation" and "Production of Materials" in the Educational Media Center, Norman Hall.

3. Public Speaking
The student must have demonstrated competency in public speaking by completing a public speaking test. These tests will be given once per quarter by the department.

4. Basic Skills
The student must have completed one successful writing sample and must have passed a basic math exam. These will be completed in one of the following courses: EEX 3010, EMR 3011, or EEX 3220; and are both required for enrollment in EMR 4202.

Core Electives
ARE 3312, ART 3100, BES 2132, DEP 3003, DEP 4204, DEP 4704, EDF 3110, EDF 3122, EDF 3135, EDF 3514, EDF 3604, EDF 4114, EDF 4210, EDF 4430, EDF 4542, EDF 4710, EDF 4780, EED 4011, EEX 4905, EGC 4033, EIA 3291, ENG 4161, ENG 4163, EPH 4033, ESE 3034, EVT 3065, EVT 3365, EVT 4302, HES 2000, HES 2400, HES 3144, HES 3301, HES 3404, HES 3431, HES 4302, HES 4450, HES 4451, HES 4540, HES 4561, LEI 4760, LEI 4770, LIN 3710, MAF 2200, MUE 2402, MUE 3113, MUE 3320, MUE 3401, PEO 3041, PET 3640, PEQ 2126, SED 4335, SPC 2300, SPC 2330, SPC 3601, STA 3013, STA 3023, VEC 3200 12

Major fields of concentration in other areas of special education are available only at the graduate level. Students interested in such areas as learning disabled, emotionally disturbed, and/or physically handicapped children should consult with staff members in special education concerning electives at the undergraduate level.

SUBJECT SPECIALIZATION TEACHER EDUCATION

The Department of Subject Specialization Teacher Education is composed of the following specializations: art education, audiology and speech pathology, business education, foreign language education, mathematics education, music education, psychology education, science education, and social studies education. Degree programs in these specializations are available at the undergraduate (BAE and BSE) level and graduate level (MAE, MEd, EdS, EdD and PhD) through the Department of Subject Specialization and/or the Division of Curriculum and Instruction with these exceptions: (1) audiology/speech pathology and psychology education are available at the undergraduate level only; (2) music education is available at the graduate level only; and (3) business education is available at the advanced degree level only.

Post baccalaureate students seeking teacher certification must complete the same program requirements expected of undergraduate students in teacher education programs offered by the department. These students can be enrolled in only one program area.

ART EDUCATION

Florida teachers are certified to teach art in kindergarten through the twelfth grade. Students may enroll in either the College of Fine Arts or the College of Education.

Students should complete ART 1201-1203 — Beginning Design — ART 1300-1301 — Beginning Drawing, ART 2205 — Intermediate Design, ARH 2050-2051-2052 Introduction to the Principles and History of Art and ART 3510 — Painting 1 while in the lower division of Liberal Arts and Sciences.

JUNIOR YEAR

Courses	*Credits*
ART 3280 Lettering	4
ART 3110 Ceramics 1	4
EDF 3110 Human Growth and Development	5
EDF 3514, 3604, 4542, 4710	5
ARE 4242 Professional Studies in Art Education	5
*Art Electives	8
EDE 4203 Elementary School Today	4
ESE 4011 Secondary School Today	5
Total	40

SENIOR YEAR

Courses	*Credits*
ARE 4243 Professional Studies in Art Education	5
ARE 4244 Professional Studies in Art Education	6
ESE 4943 Student Teaching	16
ART 3701 Sculpture 1	4
*Art Electives	9
ART 3400 Printmaking 1	4
Total	44

*Art electives must include such advanced courses as are necessary to complete state certification requirements and must include a minimum of three closely related courses in a single advanced area (fine arts, crafts, etc.)

AUDIOLOGY AND SPEECH PATHOLOGY

Students desiring to specialize in Audiology and Speech Pathology may enroll in either the College of Liberal Arts and Sciences or the College of Education. The undergraduate program is pre-professional and requires a minimum of 50 quarter hours of Speech. No grade below "C" meets a requirement in this program.

Information about the Audiology and Speech Pathology programs may be obtained through the Department of Speech, 442 Arts and Sciences Building, or the Office of Student Services, 134 Norman Hall. Students in the College of Liberal Arts and Sciences must confer with their adviser prior to admission to the Division of Audiology and Speech Pathology.

Majors are expected to complete approximately 50 hours of acceptable speech pathology-audiology courses, 26 hours of education courses and 15 hours of related area courses. They are expected to work out a planned program with their Speech Department advisor which, when signed by the student, the Speech Department advisor and the College of Education advisor will constitute the student's contract for graduation.

To qualify for the certificate of Clinical competence in Audiology or Speech Pathology awarded by the American Speech and Hearing Association or to obtain endorsement by the College of Education and the Department of Speech for the State Department of Education certification in Speech Correction or Hearing Disabilities, it is necessary to complete a master's degree or equivalent.

ENGLISH LANGUAGE ARTS

This is a joint program with the College of Liberal Arts and Sciences leading to certification at the secondary school

level in (A) English, (B) English/Speech and Journalism if desired by a student and (C) English/Religion.

A. *English Specialization:* Students wishing to complete a program in English only must satisfy the requirements listed below:

1. One course in the English language. ENG 4511 (History of the English Language) is recommended. ENG 3500 (Introduction to English Linguistics), ENG 3551 (Modern English Structure), or LIN 4400 (Applied Linguistics) will also satisfy this requirement.

2. One course in literary theory or criticism. The following courses will satisfy this requirement: ENG 3813 (The Major Critics), ENG 3812 (The Theory and Practice of Modern Criticism), ENG 3203 (Forms of Fiction), ENG 3410 (Forms of Drama), ENG 3714 (Forms of Poetry), ENG 4105 (Studies in Literary Genres).

3. One writing course. ENC 3464 (Advanced Composition) or ENC 3532 (Argumentative Writing) are recommended.

4. Three survey courses in British and American literature: (a) ENL 2031 (Survey of English Literature: Medieval and Renaissance), (b) ENL 2034 (Survey of English Literature: Restoration Through the Romantic Period) or AML 2020 (Survey of American Literature: From the Beginnings Through Whitman), (c) ENL 2042 (Survey of English Literature: Victorian to the Present) or AML 2021 (Survey of American Literature: Twain to World War II). If they wish to do so students may substitute comparable advanced courses. If they do make these substitutions they still must satisfy the survey criterion of this requirement.

5. The electives for the English specialization consist of six courses (minimum of 20 qtr. hrs.). It is recommended that students use some of these six courses to establish an area of emphasis within their specialization suited to their individual needs and preferences.

6. Eight quarter hours of speech, including SPC 2300 or 3601. It is recommended that the other speech course be SPC 2260 or ORI 2001.

The requirements for the above specialization consists of a minimum of 43 quarter hours of English courses, in addition to the general education requirements of 9 quarter hours and 8 quarter hours of speech. At least 31 of the 43 hours of English must be in courses numbered 3000 or above.

B. *English — Speech:* Students wishing to complete programs in both English and speech must major in one of them and minor in the other.

1. *The English specialization* (major) requirements are the same as listed above. The *speech minor* must include 27 quarter hours and must contain these courses: SPC 2300 or 3601; SPC 2260 or ORI 2001; SPC 3440 or 3420 or 3513; LIN 2711.

2. The *Speech specialization* (major) requirements include a total of 35 to 37 quarter hours and must include these courses: SPC 2300 or 3601; SPC 2260 or ORI 2001; SPC 3440, 3420, or 3513; LIN 2711; SED 4335; THE 4730 or 4760. The *English minor* must include 27 quarter hours and must contain required course work in English and American literature surveys, advanced composition, and English language study. Students wishing to add journalism to the English-Speech program above must take MMC 2100 and JOU 4800.

C. *English — Religion:* Students wishing to complete programs in both English and Religion must major in English and minor in Religion. The English major requirements are the same requirements listed above for the English specialization. The minor in religion must include 27 quarter hours encompassing work in (1) World Religions, (2) Bible, (c) History of Religion in the West, and (4) Religion in America.

No course, either required or elective, used to complete any of the above programs may be included if the grade earned in it is below "C."

FOREIGN LANGUAGE

This is a joint program with the College of Liberal Arts and Sciences and leads to certification in a foreign language. Students may enroll in either the College of Education or the College of Arts and Sciences.

Basic requirements for certification in a single modern foreign language include a minimum of 36 quarter hours above the second year college level, plus LIN 3142, making a total of 40 quarter hours. Course work should include the following areas: conversation, grammar and composition, linguistics, culture, and literature.

Students who wish certification in a second foreign language must complete 27 quarter hours in that language. No course in which the grade earned is below "C" meets a requirement in this program.

MATHEMATICS

This is a joint program with the College of Liberal Arts and Sciences. Students may enroll in either the College of Education or the College of Liberal Arts and Sciences. No course in which the grade earned is below "C" meets a requirement in this program.

REQUIRED COURSES

	Credits
MAC 3311, 3312 and 3313	15
MTG 3212 and 3213	6
MAS 3301 and 3302, or 4311 and 4312	6

ELECTIVE COURSES:

COC 3110 or EIN 3114, MAE 4830, 4831, 4870, MAS 3203, 4313, MHF 4404, MTG 3214, STA 3023 or 4321, or 4404, and other mathematics courses chosen with the advice of the counselor	13
Total	40

PSYCHOLOGY EDUCATION

The Psychology specialization leads to the certification to teach Psychology at the high school level. Students may enroll in either the College of Education or the College of Liberal Arts and Sciences. No course in which the grade earned is below "C" meets a requirement in this program.

Professional Education Requirements:	Credits
EDF 3135 or 4210	5
EDF 3514 or 3604 or 4542 or 4710	5
ESE 4011	5
ESE 4210	4
SSE 4333	5
ESE 4943	16
Elective in Education (College of Education students only)	3-5

PSYCHOLOGY REQUIREMENTS:	Credits
A. Introductory Level	
PSY 2013	4
B. Foundation Level	
Two courses from the following: CBH 3003, EAB 3002, EXP 3604, PSB 3004	8
Two courses from the following: DEP 3002, PPE 3004, SOP 3304	8
STA 3023	4
C. Intermediate and Advanced Level	
Psychology 300, 400 and 500 level courses .. minimum	12

Other Requirements:

A. 20 hours of History including two courses of U.S. History and two courses other than U.S. History.

B. A course in each of two other fields from among the fields of Anthropology, Economics, Political Science, Geography and Sociology.

SCIENCE EDUCATION PROGRAMS
BIOLOGY

The biology specialization leads to certification to teach biology at the high school level. Students may enroll in either the College of Education or the College of Liberal Arts and Sciences. No course in which the grade earned is below "C" meets a requirement in this program.

Course	Credits
Mathematics:	
MAC 3311	5
Biology:	
*BOT 1020 and ZOO 2010 or	
**BOT 2021 and ZOO 2010, 2011	12-14
BOT 3503 or PCB 5745	4-5
BOT 3153 and ZOO 3203, or ZOO 3303 and 3203	8-10
PCB 3033, PCB 4040 or 5046	5
AGR 3303, 3305 or PCB 3060	5
MCB 3013	5
Chemistry:	
***CHM 2040, 2041, 2042, 2043 or CHM 2045, 2046, 2047 or CHM 2055, 2056	10-12
BCH 3023 or CHM 3200	5
Physics:	
PHY 1001 or PHY 2050, 2051 and 2052	6-15
Total	66-78

Recommended Electives: BCH 4203, 4313, 5051L; ENY 3003; GLY 2015, 2100; PCB 3253, 3673, 5745; ZOO 3203, 3303, 3803.

*Transfer students with a year of Biology should not take BOT 1020

**ZOO 2010 and CHM 2041 or 2045 are prerequisites for ZOO 2011.

***CHM 2040 does not count in total credits required in this program.

CHEMISTRY

The chemistry specialization leads to the certification to teach chemistry at the high school level. Students may enroll in either the College of Education or the College of Liberal Arts and Sciences. No course in which the grade earned is below "C" meets a requirement in this program.

Course	Credits
Mathematics: MAC 3311, 3312	10
Chemistry:	
*CHM 2040, 2041, 2042, 2043, or CHM 2045, 2046, 2047 or CHM 2055, 2056	12-15
CHM 3200, or CHM 3210, 3211	6-10
CHM 3400, 3401	8
CHM 3120	5
Physics:	
PHY 2040, 2041, 2042, or PHY 2050, 2051, 2052	12-15
Total	53-60

Recommended Electives:

GLY 2015, 2100; MAC 3302, 3313, 3314, PHY 3123, 3423, 4224, 4822.

*CHM 2040 does not count in major requirements.

EARTH SCIENCES IN THE JUNIOR HIGH SCHOOL

This specialization prepares teachers to teach the earth sciences and general science in the junior high school. Students may enroll in either the College of Education or the College of Liberal Arts and Sciences to pursue their degree. No grade less than "C" meets a requirement in this program.*

Course	Quarter Hours
Mathematics:	
MAC 1132	5
**Geology:*	
GLY 2014, 2100 and five of the following: GLY 4155, 4200, 4210, 4301, 4400, 4511, 4610, OCE 4005	28
MET 2701, 3711; AST 1002, 2005, 3015, 3016, 3082	8-10
Physics:	
PHY 1001	6
Chemistry:	
CHM 1020, 1021 or CHM 2040, 2041, 2042 or CHM 2045, 2046	8-12
Total	55-61

Recommended Electives: CHM 2043, 2047, GLY 5704, MET 3100.

*Students taking this program will take chemistry and physics instead of PSC 1420, 1510, 1502.

**This major in Geology is a Science Education major, not a Professional Geology major.

PHYSICS

The Physics specialization leads to the certification to teach Physics at the high school level. Students may enroll in either the College of Education or the College of Liberal Arts and Sciences. No course in which the grade earned is below "C" meets a requirement in this program.

Course	Credits
Mathematics:	
MAC 3311, 3312, 3313	15
Chemistry:	
*CHM 2040, 2041, 2042, 2043, or CHM 2045, 2046, 2047	12
Physics:	
PHY 2040, 2041, 2042	12
PHY 3123, 3223, 3323, 4712, 4822	16
AST 2005, 3015, 3016, 3082; PHY 4124, 4224, 4324, 4424	6
Total	61

Recommended Electives: Any course in Physics at the 400 or 500 level not used to satisfy the above programs; GLY 2015, 2100, MAP 3302.

*CHM 2040 does not count in total credits required in this program.

**This major in physics is a Science Education major, not a Professional Physics major.

SOCIAL STUDIES SPECIALIZATION

This is a joint program with the College of Liberal Arts and Sciences. Students may enroll in either the College of Education or the College of Arts and Sciences.

A minimum of 63 hours in social science beyond the basic general education course is required. No course in which the grade earned is below "C" may be counted in these 63 hours.

A student may elect to concentrate in one of the following social sciences: anthropology, economics, geography, history, political science, or sociology. For those majoring in a field other than history, 20 hours of history are required. The student who elects the program outlined below will be eligible for teacher certification in social studies if his distribution includes credit in at least four separate social studies subjects. A student should plan a program, in consultation with his adviser, which includes the following minimum requirements:

	Credits
Major field (Anthropology, Economics, Geography, History, Political Science, or Sociology)	36

*History (to include at least two courses of U.S. History and two courses other than U.S. History) 20
Social Science Electives 16

Total 72

*For students majoring in History, the required 20 hours in History may be a part of the 36 hour major.
**Nine quarter hours of the total may be basic general education course credits. This may be either CSS or transferred social science credit that is not otherwise used in the teaching field.

OTHER PROGRAMS

Students in the College of Education and other colleges may have individual programs planned by selecting one or two areas from fields not listed or combinations which do not appear as regular programs in teacher education.

Programs provided for in this section will be worked out by the student and his adviser on an individual basis. Such individual programs must be approved by the Deans of both Colleges. The planning of combination programs will take into account the personal and educational objectives of the student, the relationship between the fields in the proposed combination, the certification requirements of the state, and the employment possibilities which the combination being considered offers. For combination programs preparation must include a minimum of 36 quarter hours above any comprehensive or general education courses in a field and 27 quarter hours, exclusive of general education courses, in the second. This assumes that the two fields are essentially related as to supplement each other. If the two fields are essentially unrelated 36 quarter hours will be required in each. A guide to the specific courses required in each field may be found in the regular Arts and Sciences-Education programs. No courses in which the grade earned is below "C" meets a requirement in these programs.

PROGRAMS IN HIGHER EDUCATION

Students planning careers in higher education will find many opportunities for professional improvement at the University of Florida. The College of Education, working with other instructional units of the University, provides opportunity for a variety of professional careers in teaching and administration in colleges and universities, in community colleges, and in area vocational-technical centers.

Of special interest are programs designed for those persons interested in joining state and regional staffs with responsibilities for coordinating and state level planning for higher education. The design of these programs emphasize both preservice preparation and inservice improvement in the areas of teaching, counseling and other student personnel services, administration and research in all types of post high school institutions. Additional emphasis is placed upon the leadership responsibilities and the roles of those who will become staff members of coordinating boards of regional agencies.

Students in the College of Education may concentrate their higher education program in any one of the seven departments: Administration, Counselor Education, Foundations of Education, General Teacher Education, Instructional Leadership and Support, Subject Specialization Teacher Education, and Special Education.

All course work is at the graduate level and will lead to one of the degrees listed in the following section.

All programs are individually planned to meet the specific needs of the individual candidate. Past experiences, present stated needs, and professional goals are basic to the development of the program of studies for the individual.

A variety of internship experiences are available for the advanced graduate student to acquire additional teaching, counseling and/or administrative experience in higher education. The internships are voluntary in nature and are designed to meet particular student needs.

GRADUATE EDUCATION DEGREES AND FIELDS OF SPECIALIZATION

Five graduate degrees are offered in the College of Education: the Master of Education, the Master of Arts in Education, the Specialist in Education, Doctor of Education, and Doctor of Philosophy.

Specialization at the master's and/or advanced degree level is possible in the following fields:

Administration

School Administration K-12
Business Management
Higher Education Administration
Community College Administration
Community Education
Administration of Allied Health Programs
Administration of Special Education
Administration of Vocational Education

Instructional Leadership and Support

Educational Media
Reading,
Vocational, Technical, and Adult Education—including Health Occupations Ed.
Post-Secondary Education
Supervision & Curriculum

Subject Specialization Teacher Education

Art Education
Music Education
Business Education, Advanced degree levels only
Science Education
Language Arts Education
Foreign Language Education, including Bi-lingual Education
Mathematics Education
Social Studies Education

General Teacher Education

Early Childhood Education
Elementary Education
Middle School Education

Counselor Education

School Counseling
Agency Counseling
Higher Education Personnel
Counseling Psychology
School Psychology

Foundations

Psychological Foundations
Social Functions
Research Methodology

Special Education

Mental Retardation
Emotional Disturbance
Learning Disabilities
Multiple Handicapped
Speech Pathology

College of Engineering

AEROSPACE ENGINEERING
AGRICULTURAL ENGINEERING
CERAMICS ENGINEERING
CHEMICAL ENGINEERING
CIVIL ENGINEERING
COASTAL AND OCEANOGRAPHIC ENGINEERING
COMPUTER AND INFORMATION SCIENCES
ELECTRICAL ENGINEERING
ENGINEERING GRAPHICS
ENGINEERING SCIENCES
ENGINEERING TECHNOLOGY
ENVIRONMENTAL ENGINEERING SCIENCES
INDUSTRIAL AND SYSTEMS ENGINEERING
LAND SURVEYING
MECHANICAL ENGINEERING
METALLURGICAL ENGINEERING
NUCLEAR ENGINEERING SCIENCES
ENGINEERING COMMON COURSES

College of Engineering

GENERAL STATEMENT

The engineer engages in creative design and construction, and in research and development — serving to bridge between human needs and the storehouse of theoretical knowledge. In applying science to the common purpose of life, the engineer couples science with the management of people, money, machines, and materials. Engineering challenges the individual, stimulating ingenuity and resourcefulness, and yielding a rewarding sense of creative accomplishment.

The engineer deals with real problems in the real world. This requires a thorough working knowledge of mathematics and the sciences as well as an understanding of the legal, economic, and social restrictions of contemporary society. Clear and precise communications, whether oral or written, are required of the engineer when delivering judgments, plans, and decisions. A sound knowledge of the engineering field and of related disciplines is required so that the engineer can work effectively with others — other engineers, scientists, and technicians — in fulfilling engineering assignments. Above all, the engineer is expected to be a responsible citizen.

The various undergraduate programs in the College of Engineering are founded on mathematics and the physical sciences. Additional emphasis is placed upon the humanities and social sciences to develop judgment, perspective and curiosity. Although many graduates continue their formal education beyond the bachelor's degree, the education of an engineer should not stop upon completion of a degree program: education, formal or otherwise, is a lifelong process for the successful engineer.

The curricula of the College of Engineering are planned to achieve these objectives and to provide a wide range of choices to the student selecting a degree objective. The *department* is the basic organizational unit within the College of Engineering, and has both academic and administrative responsibilities for programs leading to the bachelor's degree. Departments with baccalaureate degree responsibilities and the bachelor's degrees they offer are:

Agricultural Engineering Department
- Bachelor of Science in Engineering (Agricultural Engineering)

Chemical Engineering Department
- Bachelor of Science in Chemical Engineering
- Bachelor of Science (Chemical Engineering)

Civil Engineering Department
- Bachelor of Science in Civil Engineering
- Bachelor of Land Surveying

Computer and Information Sciences Department
- Bachelor of Science (Computer and Information Sciences)

Electrical Engineering Department
- Bachelor of Science in Electrical Engineering

Engineering Sciences Department
- Bachelor of Science in Engineering (Aerospace Engineering)
- Bachelor of Science in Engineering (Engineering Science)

Environmental Engineering Sciences Department
- Bachelor of Science in Engineering (Environmental Engineering)

Industrial and Systems Engineering Department
- Bachelor of Science in Industrial Engineering
- Bachelor of Science in Engineering (Systems Engineering)

Materials Science and Engineering Department
- Bachelor of Science in Engineering (Metallurgical Engineering)
- Bachelor of Science in Engineering (Ceramic Engineering)
- Bachelor of Engineering Technology (Metals joining)

Mechanical Engineering Department
- Bachelor of Science in Mechanical Engineering

Nuclear Engineering Sciences Department
- Bachelor of Science in Engineering (Nuclear Engineering)
- Bachelor of Science (Nuclear Engineering Sciences)

In addition the College of Engineering offers a program in Interdisciplinary Engineering Studies, administered by the Dean's Office, and leading to the Bachelor of Science (Interdisciplinary Engineering Studies) degree.

For information relative to Graduate degrees in engineering refer to other sections of this catalog, or the Graduate School catalog.

The Engineer's Council for Profession Development has accredited programs in the College of Engineering leading to the following degrees:

- Bachelor of Science in Engineering (Aerospace Engineering)
- Bachelor of Science in Engineering (Agricultural Engineering)
- Bachelor of Science in Chemical Engineering
- Bachelor of Science in Civil Engineering
- Bachelor of Science in Electrical Engineering
- Bachelor of Science in Engineering (Engineering Science)
- Bachelor of Science in Engineering (Environmental Engineering)
- Bachelor of Science in Industrial Engineering
- Bachelor of Science in Engineering (Systems Engineering)
- Bachelor of Science in Engineering (Metallurgical Engineering)
- Bachelor of Science in Engineering (Ceramic Engineering)
- Bachelor of Science in Mechanical Engineering
- Bachelor of Science in Engineering (Nuclear Engineering)
- Master of Engineering with a major in one of the following programs:
  - Ceramics Engineering
  - Civil Engineering
  - Coastal and Oceanographic Engineering
  - Environmental Engineering
  - Mechanical Engineering

The General Plan of Study

The curricula leading to the various bachelor's degrees in engineering are organized into a carefully developed sequence. The aggressive, strongly motivated student with proper high school preparation can negotiate this curriculum successfully within 13 quarters by carrying loads of 16 hours. Many students will require more than 13 quarters.

Many students, for different reasons, are not prepared to enter directly into the prescribed curriculum. For example, a student may have attended a high school which did not offer all the preparatory courses necessary for entry into an engineering program. Or possibly the student's career objective changed late in the high school program, resulting in a high school preparation deficient in areas required of potential engineering students. In all such cases, the time required to complete degree requirements can be expected to increase.

As a general rule, subjects basic to all fields of engineering are studied while the student is in the first two years or in a community or junior college pre-engineering curriculum. Then, when professional study is undertaken in the College of Engineering, the individual characteristics and interests of the student are given consideration in the development of a program of studies.

ADMISSION REQUIREMENTS

The College of Engineering encourages applications from all persons regardless of sex, race, religion, or cultural background.

Specific requirements for admission to the College are listed below.

Direct Admission: Requirements for direct admission to the College are given in the Admissions section of this catalog.

Students Classified UF: A student in a lower division college can request transfer to the College of Engineering any time after completion of the freshman year.

Transfer from Community and Junior Colleges: A student in a community or junior college who has not completed the associate degree is eligible to transfer into the College of Engineering if the requirements for admission to the University as a freshman are met. Those requirements are given in the Admissions section of this catalog.

Students wishing to transfer into the College of Engineering after completing the associate degree in a community or junior college should tailor their associate-degree program as follows:

1. Satisfy the general education requirements of the community or junior college.
2. Take the following recommended course work:
   a. mathematics through analytic geometry, and calculus of several variables — 20 quarter hours.
   b. Chemistry including general chemistry and qualitative analysis — 12 quarter hours.
   c. general physics with calculus and laboratory — 12 quarter hours.
   d. engineering graphics, if required in the proposed major department — 3 quarter hours.
3. Avoid taking technical education courses. Such courses are acceptable as part of the program only if they are shown to be equivalent to required courses at the University. (This does not apply to students applying to the Engineering Technology program.)

Departments with Restricted Admission: Because they receive applications from many more students than they can accomodate, several departments have established admission standards above the minimum requirements for the College of Engineering. These departments are

Chemical Engineering
Civil Engineering
Electrical Engineering
Industrial and Systems Engineering
Mechanical Engineering
Nuclear Engineering

Requirements for admission to these departments are given in the departmental descriptions which follow.

FRESHMAN AND SOPHOMORE REQUIREMENTS

The following program is designed for those students whose high school preparation meets the criteria shown under Engineering in the University College section. All Freshmen are required to consult with a College of Engineering adviser in planning their academic programs.

High school records and test scores are reviewed and a program of study commensurate with the student's academic capabilities is assigned. This work-load may range from a minimum of 12 to as much as 20 credit hours per quarter. A student with above-average academic capabilities and high motivation should be able to carry 15-16 credits each quarter and should thus be able to earn a bachelor's degree in 13 quarters. If this academic program is pursued for three quarters each year it will take four years and one quarter of the fifth year to earn the B.S. degree.

Some of the General Education requirements shown below may be satisfied through the College Level Examination Program (CLEP).

Courses	Credits
Social Sciences	9
English	9
*Humanities	12
CHM 2045, 2046 General Chemistry	8
***CHM 2047 or Biological Science Elective	4
MAC 3311, 3312, 3313, 3314 Analytic Geometry and Calculus	20
EGM 3311 Introduction to Engineering Analysis or MAP 3302 Elementary Differential Equations	3
PHY 2040, 2041, 2042 General Physics with Calculus	9
PHY 2040L, 2041L, 2042L Physics Laboratory	3
**COP 3212 Computer Programming for Engineers	3
Physical Education	2
****Electives	5
Total	87

*This requirement may be deferred to the Junior or Senior year and approved departmental courses taken instead. The courses offered by the Humanities perspective on the professions program are recommended.

**Students entering Chemical Engineering take COP 3210 (2 hours), COP 3212 is not required in the CIS program.

***Students in Aerospace Engineering, Chemical Engineering and Environmental Engineering Sciences are required to take CHM 2047.

****Chemical Engineering students are required to take 2 hours of electives for a total of 83 hours.

****Civil Engineering students are required to take only 3 hours of elective for a total of 85 hours.

****Environmental Engineering Students are required to take only 4 hours of electives for a total of 86 hours.

AGRICULTURAL ENGINEERING

The agricultural and food industry is the largest single industry in the United States and in Florida. The growth of agriculture and technology have proceeded together and now agricultural production and processing industries require advanced machines and systems. The industries providing these machines and the related systems require engineering skills which agricultural engineers provide. The agricultural engineer is also involved in natural resources conservation in his drainage and watershed hydrology activities.

Agricultural engineering is unique in its concern for the engineering problems of biological production and processing. The agricultural engineer solves the engineering problems associated with agriculture such as the conversion of the sun's energy into biological (food) products using soil nutrition resources and water in controlled ways. He uses his basic engineering training combined with knowledge of agricultural and biological systems to design functional machines and equipment to process and handle these products so that quality is enhanced. No challenge could be greater and more rewarding than that related to food production and processing in view of the population explosion and projected world food shortage.

The education of the agricultural engineer includes basic physical and engineering sciences and also courses in biology, soils, plant science and animal science. The courses in agricultural engineering unify the concepts learned into a practical ability to solve a broad range of engineering problems confronting the agricultural and food industry.

Agricultural engineers have numerous career opportunities in various segments of the large Florida agricultural industry and with manufacturers of equipment and supplies for agriculture throughout the nation. Agricultural engineers are sought by state and federal agencies for careers in irrigation, drainage and water resource management and pollution control. Excellent opportunities are available for graduate study. This program is offered cooperatively with the College of Agriculture.

Degree programs: The Agricultural Engineering Department offers the following degrees: Bachelor of Science in Engineering (Agricultural Engineering), Master of Engineering, Master of Science, and the Engineer Degree.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN ENGINEERING (AGRICULTURAL ENGINEERING)

Courses	Credits
Pre-Engineering Program	82
Biological Science Requirement	4
EGN 1111C Engineering Graphics	3

ESI 3502 Numerical Techniques	2
EGM 3511 Engineering Mechanics, Statics	4
EGM 3400 Engineering Mechanics, Dynamics	3
EGM 3520 Mechanics of Materials	4
EGN 3353 Fluid Mechanics	4
or	
ECI 3213 Hydraulics 1 (4)	
EEL 3003 Elements of Electrical Engineering	5
EML 3100 Thermodynamics	5
EMA 3010, 3012L Materials and Materials Laboratory	4
or	
ECI 3403 Civil Engineering Materials (4)	
SUR 3515 Engineering Measurements I	2
SOS 3022C General Soils	5
STA 3032 Engineering Statistics	3
ENC 3343 Basic Technical Writing	3
Animal Science Requirement	3
Plant Science Requirement	3
AGE 4012 Analytical and Professional Methods for Agricultural Engineers	4
AGE 4112 Agricultural Tractors and Power Units	3
AGE 4121 Agricultural Field Machines	5
AGE 4212 Soil and Water Conservation Engineering	4
AGE 4232 Drainage and Irrigation Engineering	4
AGE 4326 Environmental Control Design for Agricultural Structures	4
AGE 4412 Food and Agricultural Process Engineering	4
AGE 4416 Post Harvest Operations	3
AGE 4612 Heat and Mass Transfer in Biological Systems	4
*Approved Electives	18
Free Electives	10
Total	202

*A minimum of 20 elective credits specifically selected in consultation with the Departmental advisor, to support the student engineering objective is required.

The curriculum is structured to provide the student an opportunity to develop a chosen area of specialization. Typical areas of specialization are:

Food Engineering
Forest Engineering
Power and Machinery
Processing
Solar Energy and Energy Conservation
Structures and Environmental Quality
Water Management and Resource Development

CHEMICAL ENGINEERING

Although chemical engineering has existed as a field of engineering for only about sixty years, its name is no longer completely descriptive of this dynamic, growing profession. For the work of the chemical engineer is neither restricted to the chemical industry nor limited to chemical changes or chemistry. Instead, modern chemical engineers, who are also called *process* engineers, are concerned with *all* the physical and chemical changes that matter is made to undergo to produce economically a product or result that is useful to mankind. More than most fields, the education of the chemical engineer has been based on the fundamental sciences of physics and chemistry, on mathematical and computer techniques, and on basic engineering principles. Such a broad background has made the chemical engineer extremely versatile and capable of working in a wide variety of industries: chemical, petroleum, aerospace, nuclear, materials, sanitation, food processing, and computer technology. The chemical industry alone provides an opportunity for the chemical engineer to participate in the research, development, design or operation of plants for the production of new synthetic fibers, plastics, chemical fertilizers, vitamins, antibiotics, rocket fuels, nuclear fuels, paper pulp, photographic products, paints, fuel cells, transistors, and the thousands of chemicals that are used as intermediates in the manufacture of the above products.

In practice, the activities of the chemical engineer are sufficiently diversified to attract a wide range of talents and abilities. The chemical engineers working in *process design* determine the sequence of steps to be followed in producing a useful product, calculate the sizes of the equipment required and the total cost, those working in *development research* do small scale studies on new processes or products; those working in *production* improve and coordinate the operation of plants and equipment. Others do *fundamental research* on the laws of science and their application. Many chemical engineers work in technical sales, cost estimation, patent law, and plant supervision. A chemical engineering background is often the best route to top-level management positions.

Degree Programs: The following degrees are offered by the Chemical Engineering Department: Bachelor of Science in Chemical Engineering, Bachelor of Science, Master of Engineering, Master of Science, Doctor of Philosophy.

The University of Florida and the Department of Chemical Engineering encourage application from all cultural, racial, religious and ethnic groups. However, because of rigorous requirements of technical competency to complete the professional program, and limitations of staff and facilities, admission is a selective process. Applicants are expected to exceed the requirements listed below, but doing so does not guarantee admission.

The admission committee will consider such factors as lower division (generally an overall GPA of 2.8 is required), test data and adequacy of prerequisites. If the circumstances indicate these factors are incompletely indicative of qualification, other factors shall be considered such as motivation for a Chemical Engineering career, personal record and characteristics of suitability for the profession.

While applications are accepted up to the dates as specified in the front of the catalog admission standards may be higher for later applicants, particularly when most decisions have already been made (approximately March 15 for Fall admission, two months before other intended entrance times).

All Chemical Engineering majors shall maintain satisfactory progress (GPA of 2.0 or higher) in Chemical Engineering professional courses as well as in overall record. However, since enrollment in selected courses prerequisite to senior level professional courses may be limited by insufficient staff and facilities, minimum performance may not guarantee completion of the curriculum.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN CHEMICAL ENGINEERING

	Credits
Pre-Engineering Program	83
ECH 3012 Elements of Chemical Engineering	4
ECH 3023 Introduction to Chemical Engineering	5
CHM 3210 Organic Chemistry	4
Subtotal	96
Engineering Science Courses	
EEL 3001 or 3002 Electrical Engineering	5
EGM 3511 Engineering Mechanics 1	4
ECH 3101 ChE Thermodynamics	3
ECH 4824 ChE Materials	3
ECH 4504 Chemical Kinetics and Processing	3
ECH 4504L Chemical Kinetics and Processing Lab	2
ECH 4524 Reactor Dynamics and Design	3
ECH 4123 ChE Thermodynamics 2	5
ECH 4264, 4281 Transport Phenomena	5
EMA 3066 Polymer Science & Engineering or CHM 5511 — The Physics and Physical Chemistry of Polymers	3
Subtotal	36

Advanced Chemistry
- CHM 3211 Organic Chemistry 3
- CHM 3210L Organic Chemistry Lab 1
- ECH 3804L ChE Laboratory 3 2
- CHM 4410, 4411 Physical Chemistry 7

Subtotal 13

Engineering Analysis and Design
- ECH 3303 Systems Analysis 2
- ECH 3303L Chemical Engineering Lab 2 2
- ECH 3203 Chemical Engineering Operations 1 3
- ECH 3204 Chemical Engineering Operations 2 3
- ECH 4323 Process Control Theory 3
- ECH 4323L Chemical Engineering Laboratory 5 1
- ECH 4224L Chem. Eng. Operations Laboratory 1 3
- ECH 4403 Chemical Engineering Operations 3 3
- ECH 4404L Chem. Eng. Operations Laboratory 2 3
- ECH 4604 Cost Estimation of Process Designs 3
- ECH 4644 Process Design 3
- ECH 4605 Process Economics 3

Subtotal 32

Other Required Courses
- STA 3032 Engineering Statistics 3
- ECH 4934 Seminar 1
- CAP 3210 Numerical Methods 3
- ENC 3343 Basic Technical Writing 3
- *Non Technical Electives 9

Subtotal 19

*Option Courses Subtotal 17

Total BSCHE Program 213

*Nontechnical courses may not include significant mathematics, science or engineering content. A list of generally used courses is available. In case of doubt, the Department Chairman shall determine suitability.

*An option consists of technical courses, at least 12 of which must make a coherent theme such as advanced chemical engineering; materials science; computer and information science; biomedical, biochemical or enviromental engineering; aerospace, agriculture, coastal, electrical, mechanical or nuclear engineering; business, etc. Technical courses are defined as those with significant science and/or mathematical content. A list of suitable courses is available. Military courses cannot be used for technical or nontechnical electives. These programs lead usually after 14 quarters to the degree of Bachelor of Science in Chemical Engineering.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE & TO THE MASTERS DEGREE IN ENGINEERING

See University College portion for Pre-Engineering Curriculum.

The Department has also developed an alternative route for above-average students to attain high-level knowledge in applied science and chemical engineering fundamentals. This program consists of a bachelor's degree directly coupled to a Master of Engineering degree which can be completed within 5 years.

The bachelor's degree contains most of the same ChE courses as for the BSCHE degree and is awarded to students who have been admitted to the Graduate School. The ME degree involves the same spectrum of Chemical Engineering areas but with more sophisticated material than is contained in the BSCHE degree.

In the minimum of 234 quarter credits, the student will have earned a Master's degree and reached a significant level of professional education and will be capable of entering essentially all process industries in positions ranging from research to design, development, analysis, or operations.

The undergraduate program parallels the BSCHE program until the last three terms when the material in some courses and most electives are postponed to the graduate level where it is upgraded and supplemented. Details of the graduate program can be obtained from the Graduate Coordinator.

The curriculum consists of all courses required for the BSCHE degree except for ECH 4323L, 4264, 4281. Also, 4 credits of non-technical electives and 0 credits of technical electives are required.

Total Credits Upper Division 90
Total Credits Lower Division 96
Total BS degree 186

CIVIL ENGINEERING

Civil Engineering is directly concerned with the activities of man and his environment. It is the oldest and most diverse branch of engineering and includes the design and construction of bridges, buildings, dams, waterways, coastal protection works, airports, pipe lines, missile launching facilities, blast shelters, railroads, highways, sanitary systems, ocean structures and facilities, foundations, harbors, water works, and many other systems and structures upon which modern civilization depends. In its broadest sense, the function of the civil engineer may therefore be defined as the adaptation of the physical features of the earth to the needs of man. Approximately one-fourth of all engineers are engaged in Civil Engineering.

The concentration of population into cities, the mass use of the automobile and the airplane, the increasing demands of industry for greater quantities of power and the public's demand for clean streams and beaches, for clean air, and the potential for man's expansion into space and the oceans present the civil engineer with many challenging problems.

To assist the young engineer to meet these challenges, the Civil Engineering Department offers a wide selection of courses in the fields of structural engineering, soil mechanics, foundations, hydraulics, construction, transportation, and environmental engineering. Beyond the bachelor's degree, advanced degrees may be obtained in the several major areas of civil engineering such as transportation, hydraulics, structural, soil mechanics, foundations and construction.

While it is essential that the civil engineer understand the fundamentals of his chosen field, it is also necessary that he understand the role other branches of engineering play in the completed work. The Civil Engineering curriculum therefore includes courses from other engineering disciplines, and because of this broad program, it provides an excellent basic engineering education. Thus, the student who is not quite sure which field of engineering to choose is provided with the broadest of engineering backgrounds, a springboard, so to speak, to specialization.

Degree Programs. The Civil Engineering Department offers the following degrees: Bachelor of Science in Civil Engineering, Bachelor of Land Surveying, Master of Engineering, Master of Science, the Engineer Degree, and Doctor of Philosophy.

Admission Requirements:

For Admission to the Department of Civil Engineering, a student is required to:

a. Have a grade point average on all courses completed of at least 2.25

b. At the time of application, have a grade of C or better in each course of the following list. On those courses that have been repeated, only the last grade will be considered.

1) Analytical Geometry, Calculus and Differential Equations

2) Physics

3) Engineering Mechanics (Statics, Dynamics and Strength of Materials)

4) Digital Computer
5) CES 3123 — Mechanics of Engineering Structures
6) ENC 1102 — English Composition

For exception to these requirements, the student is referred to the Undergraduate Coordinator.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN CIVIL ENGINEERING

See University College portion for Pre-Engineering Curriculum.

	Credits
Pre-Engineering Program	85
EGN 1111 Engineering Graphics	3
EGM 3511 Engineering Mechanics-Statics	4
EGM 3400 Engineering Mechanics-Dyanamics	3
EGM 3520 Mechanics of Materials	3
GLY 2026 Engineering Geology	4
EEL 3003 Elements of Electrical Engineering	5
EML 3100 Thermodynamics	5
STA 3032 Engineering Statistics	3
ECI 2122 Civil Engineering Concepts	2
ECI 3515 Engineering Measurements	2
ECI 3213 Hydraulics	4
ECI 3403 Civil Engineering Materials	3
CES 3123 Mechanics of Engineering Structures	4
CES 3103 Stress Analysis 1	4
ECI 4514 Surveying and Field Measurements	3
ECI 4145 Construction Methods and Management	4
ECI 4137 Civil Engineering Cost Analysis	3
TTE 4104 Highway Engineering	3
ECI 4214 Hydraulics and Water Resources Engineering	4
EMA 3010 Materials I	3
ECI 4131 Construction Contracts and Specifications	3
MAS 3114 Computational Linear Algebra	4
ENV 4404 Water Supply Engineering	4
ENV 4514 Sewerage and Waste Water Treatment	4
ECI 4314 Soil Mechanics	3
ECI 4305 Soil Mechanics and Foundations	4
CES 4607 Analysis and Design in Steel	4
CES 4705 Design in Reinforced Concrete	4
ECI 4041 Computer Methods in Civil Engineering	4
EGN 4036 Engineering Ethics and Professionalism	3
ENC 3343 Basic Technical Writing	3
***Professional Electives	12
**Non-Technical Electives	4
Total Quarter Hours	210

**Elective choice from the social science and humanities areas is recommended.

***Professional Electives must be selected from the following list.

Courses indicated by † give particular emphasis to the design process. The student *must* choose at least one of these as a professional elective for a minimum of 3 credits.

CES 4034 Structural Estimating (3)
TTE 4007 Traffic and Transportation Engineering (4)
ENV 4621 Water Resources Engineering (3)
ECI 4324 Foundation Design (3)
†CES 4704 Design in Reinforced Concrete (3)
ENV 4021 Water and Waste Water Treatment (4)
†ECI 4905 Special Problems in Civil Engineering (1 to 6 credits)
†ENV 4905 Individual Studies in Environmental Engineering Science (1 to 5)
OCP 4290 Coastal Hydraulics (3)

The student may also elect courses from the following list to satisfy the Professional Electives requirement. The student will be charged for these courses at the graduate course rate.

CES 5715 Prestressed Concrete (3)
CES 5325 Design of Highway Bridges (3)
CES 5801 Design in Steel and Timber (3)
ECI 5625 Geohydrology (3)
ECI 5235 Open-Channel Hydraulics (3)
GLY 5820 Groundwater Geology (4)
TTE 5105 Highway Design (3)
ECI 5317 Stress-Deformation Analysis of Soil Media (3)
ECI 5335 Soil Exploration for Engineering Design (3)
ECI 5125 Construction Equipment and Procedures (3)
ECI 5147 Construction Planning and Scheduling (3)
TTE 5006 Transportation Engineering (3)
TTE 5215 Traffic Engineering Characteristics (4)
ECI 5124 Civil Engineering Systems (4)
†ECI 5186 Public Works Planning (3)
†ECI 5325 Foundation Design II (3)
†TTE 5701 Geometric Design of Transportation Facilities (3)

NOTE: The above list may be amended without notice by the action of the faculty of the Department of Civil Engineering.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF LAND SURVEYING

A degree program in Land Surveying is offered through the Civil Engineering department. Present land values and high rates of land development require today's surveyor to perform professional services and make decisions that have far reaching effects. The land surveying degree program prepares the student for a lifetime of work in this challenging profession. The curriculum not only includes courses in surveying, but also provides a broad background in communications, basic science, mathematics, business principles, and computer utilization. A co-op program is required and is provided through the efforts of professional surveyors to insure that all surveying graduates serve a four-quarter training period before graduation.

Courses	Credits
Comprehensive English	9
American Institutions	9
Humanities	12
ENC 3343 Technical Writing	3
SPC 2300 Introduction to Oral Communications	5
ACC 2001 Elementary Accounting	5
MAC 3224 Advanced Calculus for Architecture	4
MAC 3311 Analytical Geometry & Calculus I	5
MAC 3312 Analytical Geometry & Calculus II	5
STA 3032 Engineering Statistics	3
CHM 2040 General Chemistry	4
PHY 2002C-2003C Applied Physics	10
EGN 1111 Graphics	3
SUR 3660 Professional Drafting for Surveyors	2
COP 3212 Computer Programming	3
ECI 4041 Computer Methods in Civil Engineering	4
ECI 4131 Construction Contracts & Specifications	3
BCN 2400-3401 Construction Mechanics	10
EEL 3003 Elements of Electrical Engineering	5
REE 3043 Real Estate Analysis	5
REE 4430 Real Estate Law	4
REE 4704 Urban Land Use Analysis	4
ECI 4145 Construction Methods and Management	4
ECI 4137 Civil Engineering Project Cost Analysis	3
BOT 3153C Local Flora	3
GLY 2026 Geology for Engineers	4
AST 3652 Celestial Navigation	4
EVS 4215 Hydraulics and Hydrology	3
SUR 3101 Engineering Measurements	2
SUR 3640 Land Surveying Computation	3
SUR 4201 Field Measurements	3
SUR 3301 Topography and Mapping	2
SUR 3403 Land Surveying Principles	4
SUR 4430 Land Surveying Practice	3
SUR 4501 Geodetic Surveying	3
SUR 3331 Photogrammetry I	3
SUR 4350 Photogrammetry II	2
SUR 3520 Control Surveying	4
SUR 4462 Subdivisions	3

SUR 4912 Senior Project	3
SUR 4949 Co-Op	4
Electives	4
PEM 1100 Basic Concepts of Physical Education	2
Total Requirements	183

COMPUTER AND INFORMATION SCIENCES

Bachelor's degrees in Computer and Information Sciences are offered by the inter-college department of Computer and Information Sciences. The engineering curriculum involves a sound background in mathematics, science, and engineering as a part of the common engineering core. In addition to these courses, students receive courses which provide basic knowledge related to theory, design, and applications of computers and information processing techniques.

Students may then specialize in several related areas including information processing, software systems, computer systems, and the application of computers in engineering.

The department makes extensive use of the excellent computing facilities of the Northeast Regional Data Center and has several minicomputers and microcomputers in its own laboratories.

Graduates of the program are prepared for employment in the computer industry in Florida and elsewhere. The broad scope of the program enables the student to pursue many different career paths related to computers and their uses.

Opportunities for cooperative education are available. The department also offers degrees through the colleges of Business Administration and Liberal Arts and Sciences.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE (COMPUTER AND INFORMATION SCIENCES)

The curriculum in Computer and Information Sciences requires a minimum of 203 quarter credits as shown in the following list.

	Credits
*Pre-Engineering Program	80
COC 3110 Introduction to Computer Programming	4
CDA 3101 Introduction to Computer Organization	4
COP 3530 Data Structures	4
COP 3550 Structure of Programming Languages	4
COP 3603 Software System Development	4
EGN 1110 Elementary Engineering Graphics	2
**Engineering Core	9
CNM 3110 Algorithms of Numerical Calculus	4
COP 4300 Discrete Systems Simulation	3
COP 4640 Compilers 1	4
COP 4620 Systems Programming 1	4
EEL 3701 Introduction to Computer Engineering	4
EEL 4712 Digital Computer Principles 1	5
CIS 4905 Special Problems in CIS (4 hrs. project)	4
CIS 4935 Senior Seminar	1
MAS 3114 Linear Algebra	4
STA 3032 Engineering Statistics	3
STA 4033 Mathematical Statistics with Computer Applications	3
ENC 3343 Technical Report Writing	3
Technical Electives	16
***Restricted Electives	16
Non-Technical Electives	10
Free Electives	8
Total Program	203

*May substitute Biology for last course in Chemistry. May substitute EGM 3311 for MAP 3302.

**Must choose at least three hours from each of three of four areas comprising ESM, EE, ME and MSE. Acceptable courses are EGM 3511, EEL 3001, EML 3100 (or ECH 3101) and EMA 3010 (or EMA 3413). Other courses may be substituted by petition. Any hours in excess of nine may be used as technical or free (not non-technical) electives.

***Must be chosen from an approved list, copies of which may be obtained from the CIS departmental office in Weil 512.

ELECTRICAL ENGINEERING

Electrical Engineering is a science oriented branch of engineering primarily concerned with all phases and development of the transmission and utilization of power and intelligence. The study of electrical engineering is commonly divided into the academic areas of circuits, electronics, fields, electric energy engineering, communications, control, and computer engineering.

Because of the extremely rapid growth and changes relating to the application of electrical engineering principles, the curriculum is designed for concentration on a solid core of the basic foundation courses rather than on a sampling of application courses which may soon become obsolete. Because of the strong core program, the electrical electives as listed are considered primarily as courses to be taken according to individual interest in order to permit a student to delve deeply into subject matter previously introduced. Other electives as indicated by the footnote may be selected from the approved lists of the Electrical Engineering Department.

The department's extensive laboratory facilities and varied research programs will assist in highlighting both the experimental and theoretical approaches to electrical engineering.

Beyond the baccalaureate degree the department offers graduate programs for students interested in advanced degrees. As more and more students are continuing to further their education in the graduate schools of the nation, it is advisable that those who may become qualified seek early counseling. Even as early as the seventh and eighth quarters, the course work in many cases may be directed toward future graduate work. Certainly, the choice of electives taken during the last few quarters of the undergraduate curriculum may relate to areas of interest to be pursued in the graduate program.

Degree Programs: The Electrical Engineering Department offers the following degrees: Bachelor of Science in Electrical Engineering, Master of Engineering, Master of Science, Engineer, and Doctor of Philosophy.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

The curriculum in electrical engineering requires completion of the following program in addition to the freshman-sophomore requirements outlined above.

Pre-Engineering Program	87
	Credits
EEL 3001 Introduction to Electrical Engineering	5
EEL 3303, 3304 Electronics 1 and 2	9
EEL 3111, 3112 Circuits 1, 2	6
EEL 3135 Signals and Systems	4
EEL 3472, 3473 Electromagnetic Fields and Applications 1 and 2	7
EEL 3701 Introduction to Computer Engineering	4
EEL 3211, 3212 Elements of Electrical Energy Engineering 1 and 2	6
*EEL 3396 Introduction to Physical Electronics	4
EEL 4514 Communication Systems and Components	4
EEL 4657 Linear Control Systems	4
EEL 3001L, 3303L, 4304L, 4201L, 4514L, 4914L Electrical Engineering Laboratories	6
*EEL 4712 Digital Computer Principles 1	5
Mathematics or Statistics Elective	3

*EML 3100 Thermodynamics	5
EGM 3511 Engineering Mechanics-Statics	4
ENC 3343 Basic Technical Writing	3
**Technical Electives	23
Nontechnical Electives	6
Free Electives	7
Total Credits Required	202

*May substitute other courses from an approved list, copies of which may be obtained from the Electrical Engineering Departmental Office in LAR 216.

**Must include at least 18 hours of Electrical Engineering electives.

The technical electives are usually chosen with emphasis in one of the following areas:

1. Computer and Information Engineering
2. Communication Theory
3. Electronics
4. Electric Energy Engineering
5. Life Sciences
6. Circuits and Systems; and
7. Fields and Waves

ENGINEERING SCIENCES

The Department of Engineering Sciences offers bachelor's degree programs in Aerospace Engineering and in Engineering Science. At the graduate level it offers programs leading to master's degrees and the Engineer degree in aerospace engineering, in engineering mechanics, and in engineering science. The Doctor of Philosophy degree is offered in aerospace engineering and in engineering mechanics, with specialized tracks in the latter discipline in engineering analysis and applied mathematics and in theoretical and applied mechanics.

The department is committed to excellence in both teaching and research. Through active and diverse research programs, the professional competence of the faculty is maintained and both *undergraduate* and *graduate* students have opportunity to participate in exciting programs dealing with problems at the forefront of science, technology, and societal needs.

UNDERGRADUATE PROGRAM IN AEROSPACE ENGINEERING

This program is designed to prepare its graduates for careers in aeronautical engineering or in space-related engineering fields. It also prepares certain students for post-baccalaureate education in preparation for careers in advanced research.

On a strong base of physical and mathematical fundamentals, the program builds in the engineering principles essential to both atmospheric and extra-atmospheric flight. Aerodynamics, light-weight structures, flight propulsion and related subjects typical of aeronautical engineering are included. Also there are courses that introduce problems associated with space flight and its requirements. Integration of fundamentals and program principles into useful applications is made in design work at upper levels. Thus the curriculum provides the background for future technological growth while it also prepares the graduate for useful career work in the aerospace world.

The selection of an area of individual interest by the student enables his development of some concentration in that area through counseled choice of elective work. Examples of concentration areas are:

Aerodynamics
Design
Flight Propulsion
Flight Structures
Space Technology
Stability, Control and Guidance

Graduates of the Aerospace Engineering program are prepared for employment in aerospace industry in Florida and elsewhere. Their broad scope of fundamental preparation also suits them for specialized work in related industries and government laboratories.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN ENGINEERING (AEROSPACE ENGINEERING)

EGN 1111 Engineering Graphics (3 credits) and either CHM 2047C or CHM 2043C General Chemistry are required for the degree of Bachelor of Science in Engineering (Aerospace Engineering) as part of the pre-engineering program.

Upon satisfactory completion of the pre-engineering program, the following courses, listed alphabetically, constitute the requirements for the degree of Bachelor of Science in Engineering (Aerospace Engineering).

Courses	Credits
EAS 3001 Applied Aerodynamics 1	3
EAS 4105 Applied Aerodynamics 2	4
EAS 4106 Low Speed Aerodynamics	5
EAS 4112 High Speed Aerodynamics	5
EAS 4122 Wing and Airfoil Theory	4
EAS 4200 Aerospace Structures 1	5
EAS 4210 Aerospace Structures 2	5
EAS 4220 Aerospace Structures 3	4
*EAS 4300 Aerospace Propulsion 1	5
EAS 4700 Aerospace Design 1	3
EAS 4710 Aerospace Design 2	3
EAS 4803 Instrumentation for Aerospace Engineers	3
EAS 4933 Senior Seminar	1
EEL 3001 Introduction to Electrical Engineering	5
EGM 3400 Engineering Mechanics-Dynamics	4
EGM 3511 Engineering Mechanics-Statics	4
EGM 3520 Mechanics of Materials	4
EGM 4312 Engineering Analysis 1	4
EGM 4313 Engineering Analysis 2	4
EGN 3353C Fluid Mechanics	4
EMA 3010 Materials 1	3
EMA 3012L Materials 1 Laboratory	1
EML 3100 Thermodynamics	5
ENC 3343 Basic Technical Writing	3
CNM 3100 Numerical Techniques	2
EAS Electives	8
Technical Electives	7
Non-technical Electives	6
Upper Division Total	114
Lower Division Total	88
Total Requirement	202

*EML 4411 and EML 4419 (6 credits) may be substituted for EAS 4300.

UNDERGRADUATE PROGRAM IN ENGINEERING SCIENCE

Engineering Science is a fully accredited Engineering degree program providing a broad, strong foundation in mathematics, science and engineering, coupled with unusual flexibility to create individualized, nontraditional areas of emphasis or concentration. The program is intended for good students who wish to design personalized curricula satisfying special interests and objectives. Commonly, these students are seeking a program emphasizing:

- combinations of conventional disciplines,
- a particularly broad foundation for graduate study in a chosen field,
- preparation for professional schools such as medicine, law or management,
- new, uncommon or recently significant areas of study which do not fit well within traditional curricula.

The Engineering Science program accommodates this wide range of objectives by providing a large selection of

elective courses. Students and their advisors cooperate in choosing these electives to custom design curricula to fit individual interests and educational goals. The number of possible areas of concentration is almost limitless and new concentrations are continually being created by students. Recently designed concentrations include:

- Applied Mathematics and Computer Science
- Applied Physics
- Automation and Manufacturing Systems
- Avionics
- Biomechanics
- Biomedical Engineering
- Coastal and Oceanographic Engineering
- Composite Materials
- Control of Dynamical Systems
- Creative Product Design
- Optics and Lasers
- Environmental Engineering
- Energy Management and Planning
- Experimental Mechanics
- Fluid Mechanics
- Hospital Administration
- Instrumentation of Mechanical Systems
- Operations Research
- Pre-dental
- Pre-law
- Pre-medical
- Regulatory and Consumer Protection
- Structural Mechanics
- Technical Management
- Wave Propagation
- Wind Engineering

These concentrations illustrate the broad spectrum of study areas which may be followed within the framework of this program. You may choose any of these areas or build a coherent program in some other area to meet your individual objective. Our advisors will guide you in designing your program.

Because of the individualized nature of the Engineering Science program it is recommended that students contact the Department of Engineering Sciences as early as possible. For additional information about any of the concentrations listed or to investigate creating your own, write, phone or visit the Department.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN ENGINEERING (ENGINEERING SCIENCE)

EGN 1110 Engineering Graphics (2 credits) is required for the degree of Bachelor of Science in Engineering (Engineering Science) as part of the pre-engineering program.

Upon satisfactory completion of the pre-engineering program, the following courses, listed alphabetically, constitute the requirements for the degree of Bachelor of Science in Engineering (Engineering Science).

Courses	*Credits*
EAS 4933 Senior Seminar	1
EEL 3001 Introduction to Electrical Engineering	5
EEL 3111 Circuits 1	3
EEL 3303 Electronics 1	4
EEL 3303L Electronics Laboratory 1	1
EEL 3472 Electromagnetic Fields and Applications	4
EGM 3400 Engineering Mechanics: Dynamics	4
EGM 3511 Engineering Mechanics: Statics	4
EGM 3520 Mechanics of Materials	4
EGM 4000 Engineering Design 1	4
EGM 4001 Engineering Design 2	4
EGM 4008 Introduction to Engineering Optics	4
EGM 4312 Engineering Analysis 1	4
EGM 4313 Engineering Analysis 2	4
EGM 4314 Engineering Analysis 3	4
EGN 3353 Fluid Mechanics	4
EMA 3010 Materials 1	3
EMA 3012L Materials 1 Laboratory	1
ENC 3343 Basic Technical Writing	3
+ PHY 3123 Modern Physics 1	3
Thermodynamics Elective	5
Department Elective	3
Humanities/Social Science Electives	10
* General Electives	15
* Technical Electives	14
Upper Division Total	115
Lower Division Total	87
Total Requirement	202

*General and technical electives shall include at least three hours of laboratory courses. Subject to this restriction, the student may choose his electives from throughout the University, provided they form a coherent group of courses directed toward a clearly defined objective and are approved by the student's departmental counselor.

+Students enrolled in the environmental engineering concentration may substitute CHM 3120 or BSC 2010 for PHY 3123 with approval of adviser.

ENGINEERING TECHNOLOGY

Engineering Technology offers a coherent four-year program of study leading to the Bachelor of Engineer Technology degree. This 183 quarter hour program can be easily completed in four years by the average student. It is possible for a student to transfer into this program from a Community or Junior College with an AA or AS degree. It is preferred that these students take a pre-technology program leading to an AA degree.

Engineering Technology is that part of the technological field which requires the application of scientific and engineering knowledge and methods combined with technical skills in support of engineering activities; it lies in the occupational spectrum between the craftsman and the engineer at the end closest to the engineer.

The internship program involves several possibilities, one being the student spending the afternoons of 20 or more weeks during the Senior year in an engineering shop or laboratory working with the people involved in various projects in order to become skilled in a specialized technique. Another possibility is a closely supervised co-op program in industry.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF ENGINEERING TECHNOLOGY (METALS JOINING)

Core Courses	*Credits*
Comprehensive English	9
American Institutions	9
Humanities	12
ENC 3343 Technical Writing	3
SPC 2300 Introduction to Oral communications	5
Physical Education	2
AAC 2001 Elementary Accounting	5
EIN 4105 Specifications, Contracts, Ethics and Industrial Safety	3
MAC 1132 Algebra and Trigonometry	5
MAC 2223 Analytical Geometry and Calculus for Architecture	5
MAC 3224 Advanced Calculus for Architecture	4
STA 3032 Engineering Statistics	3
CHM 2040 General Chemistry	4
PHY 2004, 2005 Applied Physics	10
EGN 1111, 1126 Graphics	5
COP 3212 , 3111 Computer Programming	4
ETG 3530 Mechanical Testing Lab	1
ETG 3531 Physical Testing Lab	1

BCN 2400, 3401 Construction Mechanics	10
EEL 3003 Elements of Electrical Engineering	5
Total Credits	105

Speciality Courses	*Credits*
CHM 2041 General Chemistry	4
MAN 3010 Principles of Management	4
EIN 4354 Engineering Economy	3
EML 3100 Thermodynamics	5
ETI 3411, 3412 Machine Shop	2
EMA 3010L Materials 1	3
EMA 3012L Materials 1 Lab	1
EMA 3622L Materials Processing Lab	1
EMA 4522L Metallography Lab	1
EMA 4632L Metals Joining Lab	1
EMA 3080 Phase Diagrams	3
Specialty Courses	32
Technical Electives	8
Co-op or Internship	10
Total Credits	183

ENVIRONMENTAL ENGINEERING SCIENCES

Environmental Engineering Sciences is a rapidly developing field in which the application of engineering and scientific principles is used to protect and preserve human health and well-being through the control of the environment. Initially concerned only with water resources and the treatment or protection of drinking water supplies, the field first became known as Sanitary Engineering. Now, since it embraces the broad field of the general environment, including air, food, shelter, radiological health, transportation and accident prevention as well as water, the term Environmental Engineering Sciences is preferred.

During recent years, there has been such an unprecedented demand for environmental engineers that there are many more positions open than there are properly qualified graduates to fill them. It has been estimated that the number of environmental engineers employed in health departments alone will have to be more than doubled to supply the present need. Increasing activities in many applications of nuclear energy are likewise demanding individuals with special training in environmental control. Hazards and wastes from research, reactor operation, radiological procedures and tracer techniques are problems which are properly the concern of these specialists and require more qualified persons than are presently available.

More and more industries are now using the varied services of environmental engineers to good advantage. The growing importance of atmospheric pollution problems has led many industries to give increased attention to this phase of waste disposal. Graduates from Environmental Engineering Sciences programs are being called upon by industry to apply their special knowledge in conducting surveys and formulating abatement programs which will not merely transfer the pollution from the air to other areas of the environment.

The reasons for this expanding field of opportunity are due largely to the impact of advancing technology on modern community living. With each new development there has been a period of transition during which the pollution control specialist has been called upon to broaden activities to keep pace with progress and new developments in environmental protection and public health.

This process of evolution has manifested itself in so many different aspects of environmental concern that environmental engineering has become one of the broadest and most challenging of all careers. Advances in technology create more demands for environmental engineers Every new manufacturing plant, every new chemical industry, new improvements in nuclear science and in transportation — all increase the number and magnitude of problems for these specialists to solve.

It is becoming increasingly apparent that the environment cannot be sectionalized, but rather, it must be viewed as one continuous entity consisting of air, water, land, and people. This ecological concept has given rise to a new approach to environmental problems known as environmental systems management or systems ecology. To function in this area, an individual needs a broad background, not only in the basic sciences and engineering but also in medical sciences, law, economics, and political science. Students in other fields are encouraged to join with the engineers in this program by selecting environmental engineering sciences courses and, when suitable, to undertake master's and doctoral research at the interface between environmental engineering sciences and their major field.

Historically, degree programs in Environmental Engineering Sciences have been at the graduate level. However, responding to the tremendous demand for people trained in this field, the Department of Environmental Engineering Sciences initiated an undergraduate degree in 1972. The requirements for this degree, Bachelor of Science in Engineering (Environmental Engineering), are given below. In addition, the Department of Chemical Engineering, the Department of Civil Engineering and the Department of Engineering Sciences permit their students to pursue technical concentration in Environmental Engineering Sciences. This is accomplished through the selection of appropriate technical elective courses taught by the Department of Environmental Engineering Sciences. Persons with pre-medical interests can satisfy admission requirements for medical school with this program and judicious selection of electives. Students from other departments are also welcome to take courses in Environmental Engineering Sciences to the extent allowed by their backgrounds.

Degree Programs: The Department of Environmental Engineering Sciences offers the following degrees: Bachelor of Science in Engineering, Master of Engineering, Master of Science, the Engineer Degree and Doctor of Philosophy.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN ENGINEERING (ENVIRONMENTAL ENGINEERING)

The curriculum for the Bachelor of Science in Engineering (Environmental Engineering) is as follows:

Courses	*Credits*
Pre-Engineering Program	86
BSC 2010C Molecules and Cells	4
BSC 2011C Organisms	4
BSC 2012C Populations and Communities	4
EES 2001 Concepts of Env. Engr. Sci.	2
ENV 4404 Water Supply and Wastewater Rem.	4
ENV 4514 Treatment of Water and Wastewater	4
EES 4004 Environmental Engineering Sciences	4
EMA 3010 Materials I	3
EEL 3003 Elements of Electrical Engineering	5
EGN 3353 Fluid Mechanics	4
EGM 3511 Engineering Mechanics - Statics	4
*EML 3100 Thermodynamics 1	5
ECI 4137 Civil Engineering Project Cost Analysis	3
STA 3032 Engineering Statistics	3
ENC 3343 Basic Technical Writing	3
ENV 4104 Introduction to Air Pollution	4
EES 4035 Environmental Instrumentation	3
ECI 4041 Computer Methods in Civil Engineering	3
EES 4101 Environmental Microbiology	4
ENV 4201 Introduction to Radiological Health	4
Subtotal	160

*CHM 4411 and CHM 4412 Physical Chemistry (7 credits) may be substituted for EML 3100.

Restricted Science and Engineering (select 21 credits)

Courses	*Credits*
OCE 4016 Introduction to Coast. and Ocean. Engineering	4
PCB 3043 Introduction to Ecology	5
GLY 2026 Engineering Geology	4

STA 4603 Survey of Operations Research 4
MCB 3013 Basic Biology of Microorganisms & MCB 3013L Lab 5
EES 4241 Introduction to Water Analysis 4
CHM 3200 Organic Chemistry 4
PHY 3123 Modern Physics I 3
ECH 3012 Elements of Chemical Engineering 3
EGN 1111C Engineering Graphics 3
EES 5007 Ecology and General Systems 4
EES 4401 Public Health Engineering 4
ENV 4351 Introduction to Solid Wastes 3
ECI 4131 Construction Contracts and Spec. 3
EML 4416 Solar Energy 3
XXX YYYY Undesignated Technical Elective* 4

Restricted Engineering Design (select 16 credits)

Courses	*Credits*
EGM 4000 Engineering Design 1*	4
EGM 4001 Engineering Design 2*	4
ENV 4431 Environmental Engineering Design 1	3
ENV 4432 Environmental Engineering Design 2	3
EES 4201 Water Treatment Process Design	5
ECI 4214 Hydraulics and Water Resources Engineering	4
ENV 4621 Water Resources Engineering	3
EOC 5860 Harbor Engineering	4
EOC 5052 Ocean. Engineering	4
ENV 4021 Basic Concepts of Water and Wastewater Treatment	4
ENV 6355 Pollution Transport	4
ENV 6516 Advanced Waste Treatment Operations	4
ENV 6115 Air Pollution Control Measures	4
EGN 6740 Surface Hydrology	4
XXX YYYY Undesignated Design Electives*	4
General Electives**	8
Total Quarter Hours	205

*Approval by ENV Advisor Required
**At Least 4 Credits of the General Electives must be in a Socio-Humanistic Area.

The Department of Environmental Engineering Sciences requires a C or better grade in all courses with ENV and EES prefixes.

This program has been accredited by the Engineers' Council for Professional Development.

INDUSTRIAL AND SYSTEMS ENGINEERING

The rapid growth and complexity of industry in the United States and the Southeast in particular have created unusual opportunity for Industrial Engineers and Systems Engineers. The advent of automation and the emphasis on increased productivity coupled with higher levels of systems sophistication are providing impetus to the demand for the engineering graduate with a broad interdisciplinary background.

The curriculum in industrial engineering prepares the student for industrial practice in such areas as product design, process design, plant operation, production control, quality control, facilities planning, work system analysis and evaluation, and economic analysis of operational systems.

The department offers an undergraduate program in systems engineering which emphasizes the integration of knowledge and technology from the engineering, biological, and physical sciences to carry out the processes of description, analysis, synthesis, and optimization in both the industrial and non-industrial setting. The Systems Engineer learns to define problems from a broad perspective in which the contributions of individual components to a total mission is clearly seen.

Both the Industrial Engineer and the Systems Engineer are concerned with the use of engineering principles in the solution of problems encountered in environments and situations where a quantitative basis for decision making is desirable. Such decision making requires the application of the tools of economics, operations research, statistics, mathematics, and engineering analysis, with dependence on the computer.

Depending upon his interest, the student may pursue a major program in industrial engineering or in systems engineering. These major programs offer the required flexibility to meet the diversified demands of all industry and graduate schools. The industrial engineering program prepares the student for professional engineering practice while the systems program further prepares the engineer to carry out analysis and design of large scale operations requiring diversified inputs. Both programs will allow the interested students to prepare for graduate study.

Degree Programs: The Industrial and Systems Engineering Department offers the following degrees: Bachelor of Science in Industrial Engineering, Bachelor of Science in Engineering (Systems Engineering), Master of Engineering, Master of Science, the Engineer Degree, and Doctor of Philosophy.

Admission Reqirements: Admission to the Department of Industrial and Systems Engineering shall be in accordance with the general regulations of the University of Florida and the College of Engineering as listed elsewhere in this catalog. As an additional requirement, a student with a grade point average less than 2.30 (4.0 point scale), if admitted, will be placed on a probationary program for the first quarter of admission. Satisfactory completion of this planned program will remove probation.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN INDUSTRIAL ENGINEERING

	Credits
Pre Engineering Program	*85*

Engineering College Core Program (34 credits minimum)

Courses	*Credits*
EGM 3400, Engineering Mechanics, Dynamics	3
EGM 3511, Engineering Mechanics, Statics	4
EGM 3520, Mechanics of Materials	3
EEL 3001 Introduction to Electrical Engineering	5
EML 3100 Thermodynamics	5
or	
ECH 3101 Chemical Engineering Thermodynamics I	3
or	
EGN 3353 Fluid Mechanics	4
EMA 3010 Materials (3 credits + EMA 3012L)	4
or	
ECH 3824 Materials of Engineering	3
*CNM 3100 Numerical Techniques	2
ESI 3123 Analog Computer Principles	2
ESI 4523 Industrial Systems Simulation	3
*COP 3212 Computer Programming for Engineers	3
An Elective course restricted to one of the five areas above to total a minimum of 34 credits (maximum)	3
*ENC 3343 Basic Technical Writing	3

Industrial Engineering Core Program

Courses	*Credits*
Pre-engineering Program (Net from Lower Div.)	86
ACC 2001 Elementary Financial Accounting	5
EGN 1111 Engineering Graphics	3
ECO 2023 Basic Economics	5
STA 4321, 4322 Mathematical Statistics 1, 2	8
EML 3321 Manufacturing Processes	4
or	
EIN 3304 Industrial and Service Processes	3
*ESI 3305 Introduction to Industrial and Systems Engineering	3
EIN 3314L Work Design	3
ESI 3154 Process Control Computer Programming	3
or	
EEL 3701 Introduction to Computer Engineering	4
*ESI 4567 Matrix Methods in Systems Engineering	3
ESI 4568 Transform Methods in Systems Engineering	3
EIN 4344 Inventory Systems	3
EIN 4354 Engineering Economy	3

EIN 4333 Production and Inventory Control Systems	3
EIN 4365 Facilities Planning	3
EIN 4335 Production Systems Analysis and Design	3
EIN 4243 Human Engineering	3
ESI 4221 Industrial Quality Control	3
ESI 4312, 4313 Operations Research	6
EIN 4937 Seminar	1
Technical Electives	11-12
Non-technical Electives	9
Total Quarter Hours	204

*Normally taken in lower division and counted as part of the 96 lower division credits.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN ENGINEERING (SYSTEMS ENGINEERING)

Upon satisfactory completion of the pre-engineering program the following courses listed constitute the requirements for the degree of Bachelor of Science in Systems Engineering.

Courses	Credits
EMA 3010 Materials (3 credits + EMA 3012L)	4
EEL 3001 Introduction to Electrical Engineering	5
EEL 4657 Linear Control Systems	4
EGM 3400 Engineering Mechanics (Dynamics)	3
EGM 3511 Engineering Mechanics 1 (Statics)	4
ESI 3123 Analog Computer Principles	2
ESI 4568 Transform Methods in Systems Engineering	3
EIN 4344 Inventory Systems	3
EIN 4354 Engineering Economy	3
EIN 4355 Economic Decision Models	3
EIN 4243 Human Engineering	3
ESI 4221 Industrial Quality Control	3
ESI 4523 Industrial Systems Simulation	3
*ESI 3305 Introduction to Industrial and Systems Engineering	3
*ESI 4567 Matrix Methods in Systems Engineering	3
ESI 4312, 4313 Operations Research 1 and 2	6
ESI 4545 Stochastic Systems	3
ESI 4554 Systems Design	3
EIN 4937 Industrial and Systems Engineering Seminar	1
*COP 3212 Computer Programming for Engineers	3
*CNM 3100 Numerical Techniques	2
ESI 4560 Numerical Techniques in Systems Engr	3
ESI 4235 Methods of Reliability Engineering	3
EML 3100 Thermodynamics 1	5
*ENC 3343 Basic Technical Writing	3
STA 4321, 4322 Mathematical Statistics 1, 2	8
Restricted Technical Electives	6
Technical Electives	12-14
Non-Technical Electives	10
Plus one of the following:	
EEL 3303 Fundamental Electron Devices	3
EEL 3111 Circuits 1	3
EEL 3472 Electromagnetic Fields 1	3
EEL 4516 Noise in Devices and Communications Systems	5
EEL 3211 Elements of Electrical Energy	3
EEL 5182 Control System Theory & Practice	4
EEL 3701 Introduction to Computer Engineering	4
Total Hours	204

*Normally taken in lower division and counted as part of the 96 lower division credits.

RESTRICTED TECHNICAL ELECTIVES FOR SYSTEMS ENGINEERING

Environmental Engineering
- ENV 4404 Water Supply Engineering
- ENV 4514 Sewerage and Wastewater Treatment

Chemical Engineering
- ECH 3023 Introduction to Chemical Engineering
- ECH 3023L Chemical Engineering Lab 1

Coastal Engineering
- OCE 4016 Introduction to Coastal and Oceanographic Engineering
- OCP 4290 Coastal Hydraulics

Computer Science
- COP 3202 Problem Oriented Languages
- COP 3530 Data Structures

Economics
- ECO 3251 National Income Determination and Policy
- ECO 3100 Prices and Markets
  - or
- ECO 6426 Econometric Methods 1
- ECO 6427 Econometric Methods 2

Electrical Engineering
- EEL 3303 Fundamental Electron Devices
- EEL 3111 Circuits 1
  - or
- EEL 5182 Control Systems Theory and Practice
- EEL 5134 Synthesis of Linear Control

Industrial and Systems Engineering
- ESI 5571 Digital Computer Techniques 2
- ESI 5135 Hybrid Computer Techniques

Mathematics
- MAA 4226 Introduction to Modern Analysis I
- MAA 4227 Introduction to Modern Analysis II

Mechanical Engineering
- EML 4419 Aircraft Propulsion
- EML 4411 Mechanical Propulsion Systems 2

Nuclear Engineering
- ENU 4103 Introduction to Nuclear Engineering 1
- ENU 4104 Introduction to Nuclear Engineering 2

Statistics
- STA 6206 Design and Analysis of Experiments 1
- STA 6207 Design and Analysis of Experiments 2
  - or
- STA 6326 Introduction to Theoretical Statistics 1
- STA 6327 Introduction to Theoretical Statistics 2

Traffic Engineering
- TTE 5215 Traffic Engineering Characteristics
- TTE 6256 Traffic Engineering Operations and Analysis

Other sequences as agreed to by the counselor of the systems program.

INTERDISCIPLINARY ENGINEERING STUDIES

Students who wish to plan a program of study in engineering markedly different than programs described under the departmental descriptions should consult the Office of the Associate Dean. Requirements for admission to such an interdisciplinary studies program include (a) a strong educational commitment and (b) a high grade-point average, at least 2.5. The program requires approval of a committee consisting of three members of the engineering faculty and by the Associate Dean of the College, and must satisfy the minimum engineering science course requirements. Completion of the program leads to a B.S. degree.

MATERIALS SCIENCE AND ENGINEERING

Engineering in all of its branches requires the effective use of materials. The curricula in Materials Science and Engineering offer preparation in the solving of problems in the development, manufacture, and utilization of metallic and of certain non-metallic materials. Competence arises from a firm understanding of the fundamentals of chemistry, mechanics, solid state physics, and structure of materials. Thus, the Materials Engineer occupies a unique position between the science and the practice of engineering, which is advantageous in the wide variety of avenues of professional development open to him. Since progress with new engineering concepts

is often dependent upon success in advancing the capabilities of materials, he is in constant demand in many segments of industry engaged in production, application, and research on materials and in private engineering practice. The Bachelor's Degree program provides a general materials science core together with specializations in metallurgy and ceramics.

For the student whose primary interest lies in research, a graduate program leading to the degrees of Master of Science in Engineering and Doctor of Philosophy is provided. The entire offering of courses at both the undergraduate and graduate levels is designed also to furnish electives for engineers in other specialties, who desire a more extensive understanding of materials than is given by the required courses.

Degree Programs: The Materials Science and Engineering Department offers the following degrees: Bachelor of Science in Engineering (Metallurgical Engineering), Bachelor of Science in Engineering (Ceramic Engineering), Master of Engineering, Master of Science, the Engineer Degree, and Doctor of Philosophy.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN ENGINEERING (METALLURGICAL ENGINEERING) OR (CERAMIC ENGINEERING)

In addition to the 86 credits listed as Freshman and Sophomore requirements in the College of Engineering, the following courses are required for the various Bachelor of Science in Engineering degrees offered by the Department of Materials Science and Engineering.

Engineering College Core Courses	*Credits*
EGN 1110 Elementary Engineering Graphics	2
EEL 3003 Elements of Electrical Engineering	5
EGM 3511 Statics	4
EGM 3400 Dynamics	3
EGM 3520 Mechanics of Materials	3
CNM 3100 Numerical Techniques	2
EIN 4354 Engineering Economy	3
EMA 3010 Materials 1	3
EMA 3012 Materials Lab	1
STA 3032 Statistics	3
CHM 4411 Physical Chemistry 2	4
ENC 3343 Basic Technical Writing	3

Materials Science Core Courses	*Credits*
EMA 3123 Metallurgical Engineering	3
EMA 3050 Ceramics Engineering	3
EMA 3066 Polymers Engineering	3
EMA 3413 Electronic Materials	3
EMA 3080 Phase Diagrams	3
EMA 3513 Analysis of Structure of Materials	3
EMA 3622L Materials Processing Lab	1
ETG 3530L Mechanical Testing Lab	1
ETG 3531 Physical Testing Lab	1

Advanced Courses in Materials Science	*Credits*
EMA 4125 Microstructural Transformations in Materials	3
EMA 4714 Materials Selection and Failure Analysis	4
EMA 4223 Mechanical Behavior of Materials	4
EMA 4314 Energetics and Kinetics in Materials Science	4
EMA 4324 Stability of Materials	4
EMA 4524L X-ray and Electron Metallography	4
EMA 4940 Field Trips	1
EMA 4913 Research in MSE 1	3
EMA 4914 Research in MSE 2	3

To complete the requirements for the degree, each student must elect one of the following 32 credit specializations.

Ceramic Specialty	*Credits*
EMA 4643 Ceramic Glazes	4
EMA 4144 Physical Characteristics of Ceramics	3
EMA 4145 Ceramic Microstructures	3
EMA 4444 Electronic Ceramics	3
EMA 4645 Processing of Ceramic Materials	3
*Electives	16

Metallurgical Specialty	*Credits*
EMA 4121 Materials 2	3
EMA 4122 Materials 3	3
EMA 4124 Structure and Properties of Alloys	3
EMA 4224 Mechanical Metallurgy 2	3
EMA 4634L Metal Forming	4
EMA 4623 Process Metallurgy 1	3
EMA 4624 Process Metallurgy 2	3
EMA 4522L Metallurgy Lab 2	1
EMA 4632L Matallurgy Lab 3	1
*Electives	8

Summary of Degree Requirements	*Credits*
Freshman and Sophomore Requirements	86
Engineering College Core Courses	36
Materials Science Core Courses	21
Advanced Courses in Materials Science	30
Specialty Courses	32
Total Requirements	205

*At least 8 credits of electives must be non-technical.

MECHANICAL ENGINEERING

The broad scope of Mechanical Engineering makes it possible for a student pursuing a degree in this field to prepare for a wide variety of engineering careers. The core of the curriculum in Mechanical Engineering is centered upon the fundamentals of scientific and mathematical logic. Individual programs are available wherein a student may develop specialized interests in the engineering aspects of heat, work, motion and energy conversion.

Degree Programs: The Mechanical Engineering Department offers the following degrees: Bachelor of Science in Mechanical Engineering, Master of Engineering, Master of Science, Engineer Degree, and Doctor of Philosophy.

Admission: Mechanical Engineering is a "selective admission" department. Some grades *higher* than C required in Calculus and Physics. D grades in these subjects are not accepted. See W. L. Freeman in Room 237 MEB for additional information.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

The following list of courses are those that must be completed by upper division students to become eligible for the Bachelor's degree in Mechanical Engineering:

Freshman-Sophomore Requirements	87
EGN 1111 Engineering Graphics	3
EGN 1126 Design Processes in Engineering	2
ENC 3343 Basic Technical Writing	3
EEL 3001 Introduction to Electrical Engineering	5
EEL 3218 Electric Energy Engineering	3
EEL 3368 Electronics Systems and Instrumentation	4
EEL 3001L Electrical Engineering Laboratory 1	1
*EGM 3511 Engineering Mechanics Statics	4
*EGM 3400 Engineering Mechanics-Dynamics	3
*EGM 3520 Mechanics of Materials	3
STA 3032 Engineering Statistics	3
EMA 3010L Materials	3
EMA 3012L Materials 1 Lab	1
EML 3301 Instruments and Measurements Laboratory	2
*EML 3202 Mechanisms and Kinematics	4
*EML 3100 Thermodynamics 1	5
*EML 3102L Thermodynamics 2	4
EML 3101L Thermodynamics Laboratory	1
EML 3260 Machine Dynamics	4
EML 3321 Manufacturing Processes	3
EML 4920 Professional Orientation	1

EML 4936 Seminar	1
*EML 4140 Heat Transfer 1	3
EML 4141 Heat Transfer 2	3
EML 4522 Mechanical Engineering Analysis	3
*EGN 3353 Fluid Mechanics	4
EML 4709 Fluid Dynamics	3
EML 4220 Mechanical Vibrations	4
*EML 4500 Machine Analysis and Design 1	3
EML 4501 Machine Analysis and Design 2	3
General Electives	5
Technical Electives	23
Total hours required	204

*Miminimum grade of C required.

TYPICAL TECHNICAL ELECTIVES

Students enrolled in Mechanical Engineering are required to take 23 quarter hours of technical electives. The following is a partial listing that represents a cross-section of acceptable technical electives. A department counselor is available to assist in the planning of a logical and interesting elective program.

EML 3005 Intro. Mechanical Engineering Design	5
EML 4263 Dynamics of Rotating Machinery	3
EML 4411 Mechanical Propulsion Systems	3
EML 4601 Refrigeration and Air Conditioning	3
EML 4450 Energy Conversion	3
EML 4926 Mechanical Consulting Practice	3
EML 4416 Solar Energy	3
EML 4502 Machine Analysis and Design 3	3
EML 5311 Control System Theory	3
EML 5524 Engineering Acoustics and Noise Control	3
EML 5714 Gas Dynamics of Internal Flow Systems	3
EML 5105 Classical Thermodynamics	3
EML 5273 Advanced Dynamics of Machinery	3
EML 5223 Design Synthesis in Vibrations	3
EML 5515 Gas Turbines and Jet Engines	3
EML 5504 Mechanical Design 1	3
EGN 4114 Engineering Graphical Analysis	3
EMA 4714 Materials Selection and Failure Analysis	3
EMA 4324 Stability of Materials	3
EIN 4354 Engineering Economy	3

Certain courses in other engineering disciplines, and advanced physics and mathematics are also acceptable.

NUCLEAR ENGINEERING SCIENCES

Nuclear Engineering Sciences comprises those fields of engineering and science directly concerned with the release, control and safe utilization of nuclear energy. Applications range over such broad topics as the design, development and operation of nuclear reactor power systems to the applications of radiation in medicine, environmental sciences and other related disciplines. The nuclear engineer, by virtue of his engineering and science-based training, is in a unique position to contribute to the many diverse aspects of this major component of the energy field.

The nuclear engineering program has sufficiently flexibility so that the proper choice of electives will allow emphasis in nuclear power technology, radiation safety, nuclear instrumentation, power management, radioisotope applications, and other specialized areas. A full complement of experimental facilities are available; these include: a 100 KW training reactor, a 4 MeV Van de Graaff accelerator, an IBM-1800 digital computer for on-line data acquisition and analysis, two analog computers, a hybrid computer facility, two subcritical assemblies, two neutron generators, plasma and MHD research facilities as well as a large amount of specialized nuclear instrumentation.

Degree Programs: The Department of Nuclear Engineering Sciences offers the following degrees: Bachelor of Science in Engineering (Nuclear Engineering), Bachelor of Science (Nuclear Engineering Sciences), Master of Engineering, Master of Science, Engineer, and Doctor of Philosophy. Also, students with special requirements may establish an interdisciplinary engineering program leading to the Bachelor of Science degree (see general College of Engineering regulations).

For further information and for assistance in curriculum planning students interested in nuclear engineering should contact the Nuclear Engineering Sciences undergraduate counselor.

Admission: Nuclear Engineering Sciences is a "selective admissions" department. In the evaluation of applicant's transcripts, greater weight is given to academic performance in mathematics and the physical sciences. Refer to the Department for additional information.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN ENGINEERING (NUCLEAR ENGINEERING)

The following courses must be completed by upper division students to be eligible for the BSE(NE) degree. For the lower division requirements refer to the Pre-Engineering Curriculum.

Courses	*Credits*
Pre-Engineering Program	84
ENC 3343 Basic Technical Writing	3
EMA 3010L Materials	4
PHY 3123 Modern Physics 1	3
EEL 3001 Introduction to Electrical Engineering	5
EEL 3001L Electrical Engineering Laboratory	1
EEL 3303 Fundamentals of Electron Devices	4
EGM 3511 Engineering Mechanics-Statics	4
EGM 3520 Strength of Materials	4
MAP 4305 Introduction to Differential Equations for Engineers and Physical Scientists	3
MAS 4156 Introduction to Vector Analysis	3
ENV 4241 Fundamentals of Radiation Protection	4
CNM 3100 Numerical Techniques	2
EML 3100 Thermodynamics	5
ENU 4103 Nuclear Engineering 1	4
ENU 4104 Nuclear Engineering 2	4
ENU 4144 Nuclear Power Reactor Systems	4
ENU 4505 Nuclear Engineering Laboratory 1	4
ENU 4134 Thermodynamics, Heat & Mass Transfer in Nuclear Systems	4
ENU 4192 Nuclear Power Reactor Design	4
ENU 4304 Applications of Nuclear Radiation & Energy 1	4
ENU 4605 Interaction of Radiation with Matter	4
ENU 4612 Nuclear Instrumentation Systems	4
ENU 4704 Advanced Concepts for Nuclear Energy	4
Nontechnical Electives	8
Engineering Science Electives	10
Design, or Technical Electives	12
COP 3212 Computer Programming for Engineers	3
Total	202

RECOMMENDED ENGINEERING SCIENCE ELECTIVES

Courses

ENU 3002 Survey of Nuclear Technology in Modern Life
ECI 3213 Hydraulics 1
ECH 4264 Transport Phenomena
ECH 3101 Chemical Engineering Thermodynamics 1
EGM 5816 Tensor Fields and Fluid Dynamics
EEL 3472 Electromagnetic Fields 1
EEL 3473 Electromagnetic Fields 2
EGM 4314 Engineering Analysis 3
EGM 4200 Fundamental Vibration Analysis
EGM 3803 Fluid Mechanics
EGM 3400 Engineering Mechanics—Dynamics
EES 5105 Environmental Biology
EML 3102 Thermodynamics 2
EML 4140 Heat Transfer 1
EML 4141 Heat Transfer 2
EML 4709 Fluid Dynamics
EML 4450 Energy Conversion
EMA 3413 Electrical Properties of Materials

EMA 4121 Materials 2
EMA 4122 Materials 3
EMA 4144 Processes and Properties of Ceramic Materials

It should be noted that the above is not a complete list of acceptable engineering science electives but represents those commonly recommended.

DESIGN OR TECHNICAL ELECTIVES

Students are encouraged to concentrate several technical elective courses in one discipline of their choice in order to achieve solid familiarity with this "minor" field of study. The design or technical electives together with the engineering science electives, chosen in consultation with the departmental counselor, allow specialization in such areas as Reactor Engineering, Reactor Operations and Management, Radioisotopes and Nuclear Radiation Technology, Radiation and Living Systems, Associated Systems (e.g. Plasma Engineering, Special Nuclear Devices, Computer Systems).

The following technical elective courses are available through the department:

ENU 3012 History of Nuclear Energy
ENU 5005 Fundamentals of Nuclear Reactors
ENU 4601 Applications of Nuclear Radiation and Energy 2
ENU 4405 Nuclear Processing and Separations
ENU 5414 Isotope Separation
ENU 51B6 Reactor Fuel Cycles
ENU 5176L Principles of Nuclear Reactor Operations
ENV 4241 Fundamentals of Radiation Protection

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE (NUCLEAR ENGINEERING SCIENCES)

The following courses must be completed by upper division students to be eligible for the BS(NES) degree. For the lower division requirements refer to the Pre-Engineering Curriculum. This degree is designed for those students interested in pursuing a nuclear science oriented program and expecting to continue their studies at the graduate level — typical emphasis areas are nuclear radiation protection, nuclear interactions and nuclear plasmas and fusion.

Courses	Credits
Pre-Engineering Program	84
ENC 3343 Basic Technical Writing	3
CNM 3100 Numerical Techniques	2
EMA 3010L Materials 1	4
EGM 4312 Engineering Analysis 1	4
EGM 4313 Enginerring Analysis 2	4
EGM 4314 Engieering Analysis 3	4
EEL 3003 Elements of Electrical Engineering	5
PHY 3123 Modern Physics 1	3
EML 3100 Thermodynamics	5
ENU 4101 Principles of Nuclear Reactors	4
ENU 4605 Interaction of Radiation with Matter	4
ENU 490S Special Problems in NES	12
Option Electives	20
Other Electives	44
Total	202

TYPICAL OPTIONS

A. Nuclear Radiation Protection	Credits
ENU 4103 Introduction to Nuclear Engineering 1	4
ENU 4104 Introduction to Nuclear Engineering 2	4
ENU 4144 Nuclear Power Reactor Systems	4
ENU 4505L Nuclear Engineering Laboratory 1	4
ENU 4304 Applications of Nuclear Radiation and Energy 1	4
ENU 5176L Principles of Nuclear Reactor Operations	3
ENU 5625 Bionucleonics	3
ENU 5626 Radiation Biology	4
ENV 4241 Fundamentals of Radiation Protection	4
APB 5415 Radioisotope Theory and Techniques	5
APB 3223 Basic Anatomy and Physiology	3 to 5

B. Nuclear Interactions	
ENU 4103 Introduction to Nuclear Engineering 1	4
ENU 4104 Introduction to Nuclear Engineering 2	4
ENU 4144 Nuclear Power Reactor Systems	4
ENU 4505L Nuclear Engineering Laboratory 1	4
ENU 6636 Fundamental Aspects of Reactor Shielding	3
ENV 4241 Fundamentals of Radiation Protection	4
PHY 4124 Modern Physics 2	3
PHY 4822L Atomic and Modern Physics Lab	2
PHS 4303 Nuclear Physics	3

C. Nuclear Plasmas and Fusion	
ENU 4103 Introduction to Nuclear Engineering 1	4
ENU 4704 Advanced Concepts for Nuclear Energy	4
ENU 6725 Plasma Spectroscopy	4
ENU 6717 Thermonuclear Fusion	3
ENU 6730 Introduction to Plasmas	3
PHY 3123 Modern Physics 1	3
PHY 4124 Modern Physics 2	3
PHY 4822 Atomic and Modern Physics Lab	2
PHY 3323 Electricity and Magnetism 1	3
PHY 4324 Electricity and Magnetism 2	3
PHY 5325 Electricity and Magnetism Fields	3
or	
EEL 3472 Electromagnetic Fields and Applications 1	4
EEL 3473 Electromagnetic Fields and Applications 2	3
PHY 3423 Optics 1	3
PHY 4424 Optics 2	3
PHY 4454L Optics Laboratory 2	2
or	
EGM 4009 Introduction to Engineering Optics	4

COLLEGE REGULATIONS

English Requirement: Responsibility for the correct and effective use of his or her spoken and written English rests primarily upon the student. Any instructor in the College of Engineering may, at any time, with the approval of the Chairman of the department and the Dean of the College of Engineering, require a student who shows a deficiency in English to complete additional courses, over and above the curriculum requirements for the degree.

All undergraduate students entering the College of Engineering are required to take an English examination. This examination is to be taken by the student during the first regular quarter of enrollment in the College of Engineering after completing the English course requirements. The examination is offered during the first two weeks of class. Information regarding this examination is available in the office of the Associate Dean of the College.

Students who do not pass this examination in two attempts are required to complete the course ENC 1102, 3 credits or ENG 2540, 2 cr, (foreign students—ESL 2422, 3 credits), with a grade of "C" or better. This becomes a requirement for graduation. A student classified 4 or 5 EG will have only one opportunity to pass this exam.

Thesis: A thesis is not required of candidates for the baccalaureate degree in the College of Engineering. However, exceptional students may be granted permission by the Dean of the College, upon recommendation of the chairman of the department, to undertake a thesis in lieu of required or elective work in the department in which the student is enrolled. Not more than six quarter hours will be allowed for such thesis work.

Credit for Special Work.

1. Upon the recommendation of the chairman of the department and the approval by the Dean, a student during the course of study may do practical work under approved supervision in industry. By submitting a satisfactory report, based upon a previously approved outline, and by passing an examination, college credit may be received not to exceed 5 quarter hours. Students will register for the proper departmental course to receive such credit.

2. Where it is determined by the department concerned that an exceptional student may profit by supplementing the regular program of course work in a particular area, the student may register for special problems in the chosen field. Credit for such work should not exceed 9 quarter hours and requires approval of the Dean of the College of Engineering. To receive such credit, the student must register for the departmental course number 4905.

A student may not have more than 12 quarter hours total for work in industry special problems, and High Honors project.

Elective Credit: It is the policy of the College that students, classified 3EG and higher, are not normally allowed to use freshman level courses for technical and nontechnical elective credit. Foreign language credits at the freshman level may, within the discretion of the department, be credited as non-technical electives, provided that the student presents at least two quarters of work with a grade of "C" or better in the same language.

Grade-Average Required for Graduation: The requirement for graduation with a Bachelor's degree is a grade average of "C" or higher in all work taken after being classified as 3EG, and successful completion of all required courses.

Maintenance of Academic Standards: If at any time after admission to the College of Engineering a student's honor point average falls below 2.00 the student will be placed on college probation. A student may also be placed on probation if normal academic progress is not maintained in the program of study. The section of this catalog on 'Student Regulations' authorizes any college to set its own standards for exclusion of a student who fails or refuses to maintain normal academic progress. It is the policy of the College of Engineering that any undergraduate student who withdraws from the University for the second time will be automatically placed upon college probation which will continue until graduation. Any student on college probation for this reason who withdraws for a third time from the University will be ineligible for further registration in the College of Engineering. Failure to satisfactorily complete the terms of probation will result in the ineligibility of the student for further registration in the College of Engineering.

Advanced ROTC: Some engineering students may elect to enroll in the advanced ROTC programs offered by the Army, Navy and the Air Force. Graduates of these programs are commissioned as second lieutenants or ensigns as described elsewhere in this catalog.

It is the policy of the Engineers' Council for Professional Development which accredits engineering curricula, that student enrollment in advanced ROTC programs represents a second career objective quite apart from that of professional engineering. Accordingly, advanced courses in Military Science are only acceptable on a limited basis, with department approval, for credit as technical or non-technical electives toward a degree in engineering.

Correspondence Courses: (See Student Academic Regulations— "Degrees and Graduation.")

A student in the College will not be permitted to register for and work on correspondence courses while enrolled in the College unless special permission is obtained from the Dean of the College and the Registrar. A student on probation must have permission of the Dean to register for correspondence courses when not enrolled in the College. A student who has been suspended will not be permitted to take correspondence courses for credit until the suspension is removed. A grade of "C" or better is required to receive credit for a correspondence course.

Dean's List:

Each quarter there is compiled a Dean's List of those students whose work for the preceding quarter has been of a high order. This recognition is accorded to students in the College of Engineering who:

a. received a minimum of 14 hours of credit during the quarter;

b. received a 3.2 average during the quarter; and

c. have no grade below "C" for the quarter.

Drop Policy: Students classified 1 and 2EG are allowed a total of two drops after the published drop-date. Similarly, students classified 3, 4, 5, and 6EG are allowed a total of two unrestricted drops. A student with an initial course load of 15 credits or more will be permitted to drop a course without penalty or use one of the free drops, provided this is done by the end of the sixth week of class and the total credits remaining are 12 or more. There is no petition appeal from this policy.

HONOR STUDENTS

Honors: Students in the College of Engineering are designated as Honor Students when they have met all the following conditions:

1. have achieved a grade point average of 3.30 or higher in all work taken after being classified as 3EG;
2. have been registered in the College for at least one quarter;
3. have completed at least 16 credit hours at the University of Florida after being classified as 3EG or higher;
4. have been recommended by the major department after the departmental faculty have reviewed the student's record for satisfactory conduct and academic progress.

For honor students, the grade point average referred to in condition 1 above is termed the *honor point average.*

Special consideration is given honor students who wish to substitute courses, provided that they have maintained the conditions for honor student designation. The student petitions the faculty for such substitutions.

Graduation with honors requires, in addition to the normal requirements for graduation,

1. completion of all work required by the major department with a grade point average of 3.30 or higher;
2. recommendation of the major department.

High Honors: Certain honor students may be invited by the faculty of the major department to participate in a special program leading to graduation with High Honors.

Eligibility for the high honors program requires:

1. an honor point average of 3.50 or higher;
2. recommendation by the faculty of the major department.

Participation in the high honors program requires that the student:

1. accept in writing the invitation to participate in the program;
2. carry out a high honors project and submit a thesis based on the project.

If the student accepts the invitation to participate in the program, the Dean appoints a committee to oversee and approve all stages of the thesis project. The committee, recommended to the Dean by the department chairman, is composed of two faculty members from the student's major department and one faculty member from another department of the University.

The thesis project is normally not waived unless the student has an honor point average of 3.80 or higher, but this is discretionary with the committee in exceptional cases. In planning the student's program, the committee takes into account the academic goals of the student. The committee supervises the High Honors project and, if given, the oral examination; upon satisfactory completion of all requirements, the committee recommends the candidate to the faculty of the major department.

Graduation with High Honors requires (a) completion of all required work of the major department with an honor point average of at least 3.50 and (b) recommendation of the major department.

When a high honors project is a part of the program, credit may be given for courses taken earlier provided they carry the prefix of the appropriate department. Not more than a total of twelve credit hours will be allowed for high honors project work, special projects, and practical work in industry. Registration for variable credit of one to six hours per quarter requires Committee approval.

COOPERATIVE EDUCATION PROGRAM

In cooperation with the College of Engineering, a number of industries participate in a cooperative program for engineering education. Students in this program alternate quar-

ters between study at the University and supervised learning in selected industrial and Government facilities.

Application for the cooperative education program is made through the University Placement Office in the freshman year. Acceptance is based on the academic standing of the student and, of course, the availability of a suitable cooperative assignment. The first and last years of the degree program are normally completed in residence at the University. Students in the cooperative program require approximately five years to earn the degree.

Community and junior college students who have been on a cooperative education program may continue their arrangement with the same employer with the approval of the Placement Office.

The quarters spent in industry are intended to be educational as well as productive. The student gains experience as an employee: through the usual employment procedures of interviews, job assignments, training, and so on; by receiving pay commensurate with the assignment; and by receiving assignments of increasing difficulty to parallel the academic advancement.

Upon assignment to an industry, the cooperative student becomes a member of a two-person team. The two team members alternate industrial-assignment periods with each other, so that the cooperating industry has continuity in the program.

Immediately prior to each quarter to be spent in the industrial assignment, the student is required to register for participation in the Cooperative education program.

Industrial organizations wishing to cooperate in the cooperative education program should contact the Placement Office.

LIFE SCIENCES, BIOMEDICAL ENGINEERING AND PRE-MEDICAL PROGRAMS

There is a growing need in our society for individuals trained in both engineering and the life sciences. Qualified individuals so trained will probably find a diversity of career paths open to them. This preparation particularly suits a candidate for admission to medical school, but it qualifies him or her equally to pursue an engineering career in the specialized fields of bioengineering or environmental engineering, or to continue education with graduate study in biomedical engineering, or the life sciences.

Several departments of the College, after consultation with the College of Medicine, have established special programs in this field. In general, these are of the same length as the conventional curriculum, and were achieved by substituting for groupings of electives twelve credits in organic chemistry and eleven in zoology. The student who is interested in these programs should consult the engineering department adviser at the earliest practicable date, since certain departments expect the student to begin his work in these specialized areas early in the undergraduate career.

Environmental Studies Minor Program

A program for a minor (with certificate) in Environmental Studies is available for anyone with a major in the following degree programs of the College of Engineering:

Agricultural Engineering
Bachelor of Science (Agricultural Engineering)

Chemical Engineering
Bachelor of Science in Chemical Engineering

Engineering Science, Mechanics and Aerospace Engineering
Bachelor of Science (Engineering Science)

Industrial and Systems Engineering
Bachelor of Science (Systems Engineering)

Mechanical Engineering
Bachelor of Science in Mechanical Engineering

Nuclear Engineering Sciences
Bachelor of Science (Nuclear Engineering Sciences)

The program is designed to be of interest to students concerned with environmental issues. Electives can be structured around an environmental theme, giving experience in an area that may expand career opportunities and make education more meaningful.

Students electing to participate in the Environmental Studies Minor Program would need to fulfill all College and Departmental requirements for the degree-program in which he or she is enrolled. In addition, electives would be selected in consultation with his or her departmental advisor and the Environmental Studies Adviser (210 Bartram West) such that the requirements for the minor program are satisfied. These electives would consist of a minimum of 20 quarter hours of environmental courses, at least one from each of the Biological, Physical and Social Sciences with a minimum of 8 quarter hours in one.

The College of Engineering also offers a curriculum leading to the Bachelor of Science in Engineering (Environmental Engineering) administered by the Department of Environmental Engineering Sciences. Students fulfilling the requirements for this degree would generally satisfy all requirements for the Environmental Studies Certificate. These students will be awarded the Certificate if they choose to request one.

Students interested in the minor should check with the Environmental Studies Office in 210 Bartram West and register their intended course of study to insure that the certificate will be received upon graduation.

FLORIDA ENGINEERING AND INDUSTRIAL EXPERIMENT STATION

The Florida Engineering and Industrial Experiment Station has develped a national and international reputation for excellence in research. Its most important contributions are: (1) prosecution of research for the benefit of the State's industries, health, welfare, and public service, and (2) the intangible values offered to students participating in research projects while attaining their education.

Such opportunities bring the students into direct contact with the research specialists who constitute the faculty — the same faculty serve both the Station and the College. Not only do the students assist the professors working on specific research problems, but in many cases they make a direct contribution in meeting the great technological challenges of this era through research. The students thereby profit immeasurably from their association with the engineering faculty engaged in research projects and from the opportunity to use the principles of engineering for the solution of fundamental and applied problems.

All facilities of the College are available for instructional and research purposes. Whenever feasible, students are given an opportunity to observe and participate in research projects of the Station. Students who may benefit by additional laboratory work, and who have the necessary educational experience, may be given special permission to carry on individual research projects. Graduate students may select fundamental problems under investigation in the research projects of the Station for the subject matter of theses that are required for the graduate degrees in engineering.

GRADUATE DEGREES

The College of Engineering offers programs which lead to the following degrees:

Master of Engineering
Master of Science
Engineer
Doctor of Philosophy

The catalog of the Graduate School lists the course offerings, degree requirements, and admission requirements for these degree programs, and gives general information on financial aid.

For information on specific degree programs, interested persons should contact the Graduate Coordinator of the department they are interested in

ART
MUSIC
THEATRE
UNIVERSITY GALLERY

College of Fine Arts

GENERAL STATEMENT

The College of Fine Arts provides instruction for students who seek professional careers in the Fine Arts; it offers to other students of the University creative and cultural opportunities in these arts; and it performs appropriate related services for the citizens of Florida. The College has developed from the School of Architecture established in 1925. In 1975 the previous College of Architecture and Fine Arts was divided to form two colleges, the College of Architecture and the College of Fine Arts. The College is composed of the Departments of Art, Music and Theatre; the Center for Latin American and Tropical Arts and the University Gallery.

PROGRAMS

The College offers professional curricula leading to undergraduate degrees in:
Art (Creative Photography, Painting, Printmaking, Drawing, Sculpture, Art History, Crafts)
Graphic Design
Art Education
Music
Music Education
Theatre (Dance)

The College also offers at the Graduate level professional programs in Art, Music, Music Education, Theatre and Dance. Each program requires students to master the principles inherent to the field in which the degree is sought and the development of the professional skills needed to participate in actual practice.

Major programs of study in Art, Music and Theatre, leading to the degree of Bachelor of Arts, are offered by the departments of this college. Requirements for this degree are described under the College of Liberal Arts and Sciences.

General Courses: The College offers a number of courses open to all students of the University who wish to broaden their cultural background in the arts.

Public Programs: The College sponsors numerous public lectures, concerts, exhibits, festivals, special conferences, and clinics in which students, faculty and eminent visiting scholars and practitioners participate.

LIBRARY FACILITIES

The University Libraries, the Music Library, and the Architecture and Fine Arts Library together provide an important working collection of publications and audio-visual materials for undergraduate and graduate studies. These resources include books, government documents, leading American and foreign periodicals. There is an extensive collection of published and recorded music of all types. Music listening facilities allow convenient use of these materials.

AUDIO VISUAL LIBRARY

The College of Fine Arts maintains an Audio Visual Library facility which houses over 100,000 slides. This facility is primarily for the use of the faculties in the Colleges of Architecture and Fine Arts; however, it attempts to serve students of those two colleges and faculty of other colleges as time and staff permit.

ACADEMIC ADVISEMENT

Students planning to major in any program of study in the College of Fine Arts should consult the department chairman or adviser as soon as possible.

The advisement program of the college offers students the services of faculty members highly qualified in their respective professions. These faculty assist students in the selection of a field of study offered in the college. They also assist students with academic problems and provide coordination and recommendation regarding the selection of employment after graduation.

STUDENT AID

Students interested in part-time employment, assistantships, fellowships, loans, prizes and awards are referred to individual departments and information provided by the Student Financial Aid Office, University of Florida, Gainesville, Florida 32611. Music performance scholarships are available.

TEACHER'S CERTIFICATE

In cooperation with the College of Education, the College of Fine Arts offers programs for teaching Art and Music in the public schools in grades K through 12. These programs are listed in both sections under the College of Education and the College of Fine Arts. For certification consult the College of Education or the Academic Adviser in Art or Music.

STUDENT WORK

The College reserves the right to retain student work for the purpose of record, exhibition, or instruction.

STUDENT ORGANIZATIONS

Student organizations take an active part in the educational program of the College. Included in these organizations are the Music Educators National Conference student member Chapter No. 257, Kappa Kappa Psi, Tau Beta Sigma, Phi Mu Alpha Sinfonia, Sigma Alpha Iota, Pi Kappa Lambda, the student chapter of the American Guild of Organists, and the Florida Players. The College encourages students to participate in the activities of professional groups and societies.

GRADUATE DEGREES

The College offers the degrees Master of Fine Arts with majors in Art, Music, Theatre and Dance, and in cooperation with the College of Education, the Master in Education with a major in Music Education. To meet the needs and goals of each student, graduate programs are prepared individually in consultation with a designated member of the Graduate Faculty of the College.

Each department offers majors leading to the degree Master of Fine Arts.

Art: The degree of Master of Fine Arts, major in Art provides a concentration of study in studio or history. Students who have earned the Bachelor of Fine Arts degree may complete the requirements in two years.

Music: The degree Master of Fine Arts, major in Music is designed primarily for those who wish to prepare themselves for careers as teachers in colleges and universities, performers, music historians, music critics, church musicians, composers and conductors. Recipients of this degree will be prepared to continue graduate study toward a doctoral degree in the various areas of music cited above.

The Department of Music cooperates with the College of Education in offering courses leading to the following degrees: Master of Education in Music Education (nonthesis degree); Master of Arts in Education in Music Education (thesis degree); Specialist in Education: Doctor of Education in college music teaching (emphasis in music education); Doctor of Philosophy in college music teaching (emphases

in music history, literature and criticism, music theory and composition, performance practices, and music education).

During the week of the student's first registration, he/she must take placement examinations in applied music, in music history and literature, in music theory, and in music education for the music education major. Music education majors must satisfy requirements for music teaching certification in Florida before the degree is awarded.

Theatre: The degree of Master of Fine Arts, major in Theatre is designed primarily for those interested in production oriented theatrical careers. The program provides advanced training in the craft skills essential to the theatre artist, and their subsequent application in public and studio production. Specialization is offered in Directing-Acting, Costume, Design-Technical, and Dance.

For further information see the Graduate School catalog.

REQUIREMENTS FOR ADMISSION

The University of Florida and the College of Fine Arts encourage applications from qualified students from all cultural, racial, religious and ethnic groups. Listed below are the specific requirements for admission to this College. It should be understood, however, that minimum requirements are given and that admission to the College is a selective process. The satisfaction of minimum requirements does not automatically guarantee admission. Limitations in staff, faculty and facilities make it necessary that the College establish quotas for the admission of students to most programs. Therefore, eligible applicants will be considered for admission to the College of Fine Arts within established quotas. A student's total record, including educational objective, pattern of courses completed, quality of academic record, successful audition as appropriate and test data will be considered in evaluating applicants. Priority in admission will be given to those applicants whose potential indicates the greatest likelihood of success in the program requested.

University of Florida Students Classified UF: To be eligible for admission to the College of Fine Arts students are expected to have: 1) earned at least 96 quarter hours with the minimum average of "C" or higher in the courses required by the appropriate curriculum specified for Freshman and Sophomore years; and 2) passed all required preprofessional courses within those two years with a minimum grade average of "C". Admission to programs restricting enrollment because of space limitations may require that the student earn higher than the 2.0 (C) average minimum. Quotas will limit the admission of students based upon the overall academic record, grade point average and apparent potential for successful completion of the program.

Students who have declared a major offered in the College of Fine Arts may apply for admission after one quarter at the University.

Minimum grades required in certain courses and other special requirements for admission to various curricula in the College of Fine Arts should be obtained from the Department or Dean's Office.

Transfer Students: To be eligible for admission to the College of Fine Arts a transfer student must satisfy the minimum requirements for admission as specified in the ADMISSIONS section of this catalog. Additionally, the applicant must satisfy the following specific requirements for admission to the College of Fine Arts:

A. Transfers from four-year colleges.

Students attending four-year colleges should take courses similar to the appropriate program as outlined in this catalog.

B. Community College Transfers to Departments within the College.

1. *Curricula in Art:* Where possible the community college program should include: two basic design courses, a course in color theory, two free-hand drawing courses, and a year of art history. Courses not available at the community college will be taken after transfer to the University.

2. *Curricula In Music:* The community college program should include two years of music theory, including ear training, sight singing and keyboard harmony; two years of applied music major study; and two years of ensemble. The primary criterion for admission to any music major program is proficiency in musical performance. Students are admitted to the program following completion of a satisfactory in-person or tape-recorded audition, and completion of theory and piano proficiency placement tests.

3. *Curriculum in Theatre:* If available, theatre appreciation, oral interpretation, voice and articulation, acting, theatre practice, stage make-up and stage movement should be taken at the community college.

Provisional Admission: The professional programs of the College demand that preprofessional course-work begin with the Freshman year. Realizing that some schools may not offer all such courses, the College provides an opportunity for admissable students to remove these deficiencies. Qualified transfer students, indicating potential, but not having completed all preprofessional prerequisites, may be admitted provisionally *based upon space available.* Due to limitations in space and faculty all qualified students may not be admissable. Students admitted provisionally will register for the courses necessary to eliminate deficiencies in the shortest time possible. Until these deficiencies are removed they will be required to maintain a "C" (2.00) average to be eligible for continued registration and must follow a specified program.

MAXIMUM AND MINIMUM LOADS

Around fifteen quarter hours in any regular quarter shall be considered a normal load. A student may be permitted to register for more than eighteen quarter hours when, in the opinion of his adviser, the quality of his record justifies this. The minimum load for a full-time student in the University during a regular quarter is 12 hours. At the time of registration a student, with the approval of the Dean or Department adviser, may register for less than twelve quarter hours.

NORMAL ACADEMIC PROGRESS

Students maintain normal academic progress by earning a minimum grade point of 2.0 (C) average for all work attempted while classified in the College. In addition, students are required to take courses in a sequence as specified by the department chairman or adviser. A student may be excluded from a program of study in the College if he/she fails or refuses to maintain normal academic progress.

DEAN'S HONOR LIST

Undergraduate students who demonstrate excellence in their academic work by completing a minimum of 12 hours credit in a quarter term and achieving a grade point average of 3.5 or better will earn a position on the Dean's Honor List. Students whose term averages are below 3.5 due to grades of I, X, etc. are not eligible.

GRADUATION REQUIREMENTS

To be eligible for graduation, the student must earn a minimum grade point average of 2.0 (C) for all work attempted in the appropriate curriculum while classified in the College. Courses taken while enrolled in another College may not apply toward the calculation of the average. Specific grade requirements for various curricula may be obtained from the department or Dean's Office.

Minimum credits are required for the following degrees:
Bachelor of Arts in Art 180

Bachelor of Fine Arts
(Art) 196
(Theatre) 197
Bachelor of Design in Art Education 196
Bachelor of Music 198
Bachelor of Music Education 198

Students planning to enter the Graduate School should maintain a 3.0 (B) average in Upper Division work.

GRADUATION WITH HONORS AND HIGH HONORS

The faculty will consider recommending students for graduation with HONORS or HIGH HONORS on the following criteria: (a) grade point average (b) distribution and quality of subject matter studied, (c) evaluation of the students by the faculty, and (d) other pertinent qualities of the student and his work.

The student will be considered for HONORS upon earning a minimum 3.2 academic average or for HIGH HONORS upon earning a 3.5 academic average. The average will be calculated on all work attempted while the student is classified 3FA and above. Transfer credits will be excluded from the average: HONORS or HIGH HONORS may be awarded upon a minimum of 72 quarter hour credits taken at the University of Florida.

I. CURRICULA IN ART

Westin, R.H., *Chairman and Adviser*; Murray, E.D., *Assistant Adviser*

The Department of Art offers undergraduate majors in the College of Fine Arts leading to degrees of Bachelor of Arts in Art, Bachelor of Fine Arts, Bachelor of Design and Bachelor of Design in Art Education. Junior and senior course requirements in the curricula are given below. For further information concerning these curricula see the Chairman of the Department of Art or the departmental Assistant Advisor.

In addition, the Department of Art in cooperation with the College of Liberal Arts and Sciences offers a major in art leading to the degree Bachelor of Arts. Requirements for this degree are given in the listing of the College of Liberal Arts and Sciences.

The curricula in the College of Fine Arts are intended for students who plan to enter professional careers in fine arts or design, to teach art in public schools or in universities and colleges or to enter graduate study.

The major in art in the College of Liberal Arts and Sciences should be chosen by those students whose interest is in a liberal education with emphasis upon the visual arts.

1. Curricula. Leading to the Degree of Bachelor of Arts in Art.

The Bachelor of Arts in Art degree offers programs in the following areas: (a) Studio — creative photography, drawing, painting, printmaking and sculpture, (b) Art History, (c) Crafts, (d) Graphic Design, and (e) Art Education. This degree program offers the student all the content advantages of the departments professional B.F.A./B.D. programs while reducing the actual time commitment by one quarter or 16 hours. (Also see (2) Curricula in Fine Arts (B.F.A.), (3) Curricula in Graphic Design (B.D.), and (4) Curricula in Art Education, (B.D.).

[a] Studio

JUNIOR YEAR

	Credits
Studio Major	8
Art History	12
**ART 3310C-3311C Intermediate Drawing 1 and 2	8
Art Electives (3400C, 3701C, 3600C, 3510C, 3110C)	12
*General Electives	4
Total	44

SENIOR YEAR

	Credits
Studio Major	10
Art History	4
ARH 4453 Mid 20th Century Art	4
*General Electives	8
*Electives	14
Total	40
Total Minimum Credits	180

*Electives must include a minimum of twelve credits outside the Department of Art in courses of a non-studio nature.

The studio major should consist of four courses (18 hours) in a single area e.g., creative photography, drawing, painting, printmaking, sculpture, etc.

**Intermediate Drawing 1 and 2 is required of all BAA studio majors. For Drawing majors ART 3310C-3311C will be counted as part of their studio major and they will substitute eight hours (to be selected from ART 3400C, 3510C, 3600C or 3701C) to make up the difference.

[b] Art History

JUNIOR YEAR

	Credits
Art History	16
ARH 3800 Criticism of Art	4
History of World Civilization or History of Philosophy	10
Foreign Language	15
Total	45

SENIOR YEAR

	Credits
Art History	20
Foreign Language	4
History of World Civilization or History of Philosophy	5
Electives	6
ARH 4453 Mid-20th Century Art	4
Total	39
Total Minimum Credits	180

[c] Crafts

JUNIOR YEAR

	Credits
ART 3110C-3111C Intermediate Ceramics 1 and 2	8
ART 3150C-3151C Jewelry & Metalwork 1 and 2	8
ART Elective (Studio)	4
Art History	12
*General Electives	12
Total	44

SENIOR YEAR

	Credits
ART 4113C Advanced Ceramics	10
ARH 4453 Mid-20th Century Art	4
Art History	4
ART 3600C Photography	4
ART 3701C Sculpture 1	4
*General Electives	14
Total	40
Total Minimum Credits	180

*Electives must include a minimum of twelve credits outside the Department of Art in courses of a non-studio nature.

[d] Graphic Design

For admission criteria see description under Bachelor of Design program.

JUNIOR YEAR

	Credits
**ART 3280C Lettering	4
ART 3233C-3234C Layout 1 and 2	8

ART 3282C Typography	4
ART 3235C Graphic Design	4
ART 3310C-3311C Intermediate Drawing 1 and 2	8
Art History	12
**ART 3600C Photography	4
ART 3830C	4
Total	48

SENIOR YEAR

	Credits
ART 4237C Advanced Graphic Design	5
ART 4239C Projects in Graphic Design 1	5
ART 4241C Projects in Graphic Design 2	5
Art History	4
ARH 4453 Mid-20th Century Art	4
*Electives	13
Total	36
Total Minimum Credits	180

*Electives must include a minimum of twelve credits outside the Department of Art in courses of a non-studio nature.
**ART 3280C and/or ART 3600C should, if possible, be completed in the sophomore year.

[e] Art Education

The curriculum in Art Education is designed for students who plan to teach art in the public schools. Students completing this curriculum, which is offered in cooperation with the College of Education, are qualified for certification as teachers of art in the state of Florida. Students are urged to become familiar with the requirements as listed under the College of Education dealing with admission to the Advanced Professional Sequence.

JUNIOR YEAR

	Credits
ART 3280C Lettering	4
ART 3110C Ceramics 1	4
EDF 3110 Human Growth and Development	5
EDF 3514, 3604, 4542, or 4710	5
ARE 4242 Professional Studies in Art Education	5
ARE 4243 Professional Studies in Art Education	5
ARE 4244 Professional Studies in Art Education	6
ART 3701C Sculpture	4
*Art Electives (major)	4
Total	42

SENIOR YEAR

	Credits
ART 3400C Printmaking	4
EDE 4203 Elementary School Today	4
ESE 4011 The Secondary School Today	5
EDE 4943 The Practicum; K-12	16
*Art Electives (Major)	9
ARH 4453 Mid-20th Century Art	4
Total	42
Total Minimum Credits	180

*Art electives must include such advanced courses as are necessary to complete state certification requirements and must include a minimum of three closely related art department studio courses in a single advanced area (fine arts, crafts, etc.)

2. Curricula leading to the Degree of Bachelor of Fine Arts.

The Bachelor of Fine Arts degree offers programs in the following areas: (a) Studio — creative photography, drawing, painting, printmaking and sculpture, (b) Art History, and (c) Crafts — ceramics, jewelry and metalwork. Students who plan to enter a program of graduate study in art after receiving the baccalaureate degree are advised to register in one of these curricula. Upon completion of graduate work students entering these fields are qualified for positions in museums and art galleries, as instructors of art at the college and university level, or for independent activity as creative artists.

[a] Studio

JUNIOR YEAR

	Credits
Area of Specialization	8
Art History	12
*ART 3510C Painting 1	4
ART 3701C Sculpture 1	4
ART 3110C Ceramics 1	4
ART 3310C-3311C Intermediate Drawing 1 and 2	8
**Electives	10
Total	50

SENIOR YEAR

	Credits
Area of Specialization	15
Art History	8
ARH 44S3 Mid Twentieth Century Art	4
ART 3400C Printmaking 1	4
ART 3600C Photography 1	4
**Electives	15
Total	50
Total Minimum Credits	196

*Students will take the introductory class in five of the six studio areas (photography, painting, printmaking, sculpture, ceramics and drawing) and one second level class in drawing (ART 3311C). Students will also select one other second level class from outside their specialization (ART 3111C, ART 3401C, ART 3520C, ART 3601C and ART 3702C).
**Electives must include a minimum of twelve credits outside the Department of Art in courses of a non-studio nature.

[b] Art History

JUNIOR YEAR

	Credits
History of World Civilization or History of Philosophy	13
Foreign Language	10
History of Art	24
Electives	4
Total	51

SENIOR YEAR

	Credits
History of Philosophy or History of World Civilizations	10
Foreign Language	8
History of Art	20
ARH 4453 Mid-20th Century Art	4
Electives	7
Total	49
Total Minimum Credits	196

[c] Crafts

JUNIOR YEAR

	Credits
ART 3110C-3111C Ceramics 1 and 2	8
ART 3150C-3151C-3158C Jewelry and Metalwork 1, 2 and 3	12
Art History	12
ART 3310C-3311C Intermediate Drawing 1 and 2	8
ART 3701C Sculpture 1	4
*Electives	5
Total	49

SENIOR YEAR

	Credits
ART 4113C Advanced Ceramics	15
ART 3510C Painting 1	4
Art History	8
ARH 4453 Mid Twentieth Century Art	4
ART 3600C Photography 1	4

COLLEGE OF FINE ARTS

ART 3400C Printmaking 1	4
ART 3702C Sculpture 2	4
*Electives	8
Total	51
Total Minimum Credits	196

*Electives must include a minimum of twelve credits outside the Department of Art in courses of a non-studio nature. EMA 3040L and EMA 3050 are recommended electives.

3. Curriculum in Graphic Design, leading to the degree of Bachelor of Design.

The curriculum in Graphic Design is a professional program. Included in the curriculum are a series of courses in design, drawing and painting, the history and theory of art and, in the professional field, lettering, layout, graphic design, photography and illustration. Students receiving the Bachelor of Design degree are qualified for professional careers in graphic design and related fields. Admission to this program is selective. A portfolio of art work including drawing and design projects must accompany the application for the Graphic Design program. Photographic slides or prints of artwork and a return mailer with postage is necessary. This two-year program's curriculum is sequential and applications are accepted only for the Fall quarter. Deadline for application is May 1 for entrance in the Fall quarter.

JUNIOR YEAR

	Credits
**ART 3280C Lettering	4
ART 3830C Methods and Materials of the Artist	4
ARH 3800 Criticism of Art	4
**ART 3600C Photography	4
ART 3233C-3234C Layout 1 and 2	8
ART 3282C Typography	4
ART 3235C Graphic Design	4
ART 3310C-3311C Intermediate Drawing 1 and 2	8
History of Art	8
*Electives	2
Total	50

SENIOR YEAR

	Credits
ART 3510C Painting 1	4
ARH 4453 Mid-20th Century Art	4
ART 4237C Advanced Graphic Design	5
ART 4239C Projects in Graphic Design 1	5
ART 4241C Projects in Graphic Design 2	5
History of Art	8
*Electives	19
Total	50
Total Minimum Credits	196

*Electives must include a minimum of twelve credits outside the Department of Art.

**ART 2280C and/or ART 3600C should, if possible, be completed in the Sophomore year.

4. Curriculum in Art Education (College of Fine Arts—College of Education), leading to the Degree of Bachelor of Design in Art Education.

The curriculum in Art Education is designed for students who plan to teach art in the public schools. Students completing this curriculum, which is offered in cooperation with the College of Education, are qualified for certification as teachers of art in the State of Florida. Students are urged to become familiar with the requirements as listed under the College of Education dealing with admission to the Advanced Professional Sequence.

JUNIOR YEAR

	Credits
ART 2280C Lettering	4
ART 2110C Beginning Ceramics	4
ART 3111C Intermediate Ceramics	4
EDF 3110 Human Growth and Development	5
EDF 3514, 3604, 4542, or 4710	5
ARE 4242 Professional Studies in Art Education	5
ARE 4243 Professional Studies in Art Education	5
ARE 4244 Professional Studies in Art Education	6
ART 3701C Sculpture	4
*Art Electives (Major)	8
Total	50

SENIOR YEAR

	Credits
ART 3400C Printmaking	4
ARH 4453 Mid-Twentieth Century Art	4
EDE 4203 Elementary School Today	4
ESE 4011 The Secondary School Today	5
*Art Electives (Major)	13
General Electives	4
EDE 4943 The Practicum; K-12	16
Total	50
Total Minimun Credits	196

*Art Electives must include the advanced courses necessary to complete state certification requirements and must include a minimum of three closely related art department studio courses in a single advanced area (fine arts, crafts, etc.)

II. CURRICULA IN MUSIC

Leading to the Degrees Bachelor of Music and Bachelor of Music Education.

Hale, J.P., *Adviser* (B.M.E.), Jaeger, I.C., *Assistant Adviser* (B.M.)

NOTE: Music majors must be admitted to the music major program by the Department of Music. Prospective majors should see the Department of Music Chairman as early as possible in their careers.

Requirements for the Degree: To qualify for a degree in music, a student must complete the courses listed below to the satisfaction of the music faculty. The faculty reserves the right to require a minimum grade of "C" in any course required for graduation.

All music majors are required to attend ten programs each quarter of the normal academic year. Music majors must participate in the Choral Union during the winter quarter each year.

The successful completion of a piano profiency is required for all music majors. If necessary, students will take Piano Skills until the requirement is met.

A diagnostic theory examination is required of all students entering the Upper Division.

1. Curriculum for Applied Instrumental Major. Bachelor of Music Degree.

JUNIOR YEAR

Music Performance Area	Credits
Applied major	9
Junior Recital is required	
Applied Minor	3
Ensemble	3
Courses	
MUH 3211, 3212, 3213 History of Music	12
MUT 3611 Form and Analysis	4
MUT 4411 or 4421 Counterpoint	4
Three courses from Physical Sciences, Biological Sciences, Mathematics or PHS 4805	9
Electives	6
Total	50

SENIOR YEAR

Music Performance Area	Credits
Applied major	9
Senior Recital is required	
Applied Minor	3
Ensemble	3

Courses	
MUT 3321 Instrumentation and Arranging	4
MUG 4101 Conducting	4
MUS 4905 Projects and Problems	5
Electives	23
Total	51
Total Minimum Credits	198

2. Curriculum for Applied Voice Major. Bachelor of Music Degree.

JUNIOR YEAR

Music Performance Area	*Credits*
Applied major	9
Junior Recital is required	
Ensemble	3
Piano (1 year beyond MVK 2121) minimum credits	5
Courses	
MUH 3211, 3212, 3213 History of Music	12
Foreign Language	10
Three courses from Physical Sciences, Biological Sciences, Mathematics, or PHS 4805	9
Electives	2
Total	50

SENIOR YEAR

Music Performance Area	*Credits*
Applied major	9
Senior Recital is required	
Ensemble	6
MUS 4201, 4202 Language and Diction for Singers	2
Courses	
MUT 3611 Form and Analysis	4
MUT 4411 or 4421 Counterpoint	4
MUG 4101 Conducting	4
MUS 4905 Projects and Problems	25
Electives	20
Total	51
Total minimum credits	198

3. Curriculum in Theory and Composition. Bachelor of Music Degree.

Theory Track

JUNIOR YEAR

Music Performance Area	*Credits*
Applied Principal, Including Recital	6
Ensemble	3
Courses	
General Education (HUM)	12
MUT 4421 Tonal Counterpoint	4
MUT 3321, 3322 Instrumentation and Arranging	8
MUT 3611, 3612 Form and Analysis	8
Music Electives	4
Electives	3
Total	48

SENIOR YEAR

Music Performance Area	*Credits*
Ensemble	3
Courses	
MUH 3211, 3212, 3213 History of Music	12
MUT 4615*, 4626** Advanced Analysis	6
MUS 4905 Projects and Problems (analysis or Instr. and Arr.)	5
Music Electives	8
Electives	10
Total	44

*Analysis of Early Music
**Advanced Analytical Techniques

Total minimum credits 190

Composition Track

JUNIOR YEAR

Music Performance Area	
Applied Principal, Including Recital	6
Ensemble	3
Courses	
MUC 3201, 3202, 3203 Composition	9
MUT 4421 Tonal Counterpoint	4
MUT 3611, 3612 Form and Analysis	8
MUC 4301 Introduction to Electronic Music	4
General Education (HUM)	12
Total	46

SENIOR YEAR

Music Performance Area	
Ensemble	3
Courses	
MUC 4204, 4205 Composition	6
MUH 3211, 3212, 3213 History of Music	12
MUT 3321, 3322 Instrumentation and Arranging	8
MUS 4905 Projects and Problems (composition)	5
Electives	12
Total	46
Total minimum credits	190

4. Curriculum in History and Literature. Bachelor of Music Degree.

JUNIOR YEAR

Music Performance Area	*Credits*
Applied Principal, Including Recital	6
Ensemble	4
Courses	
MUH 3211, 3212, 3213 History of Music	12
Foreign Language	14
Three courses from Physical Sciences, Biological Sciences, Mathematics or PHS 4805	9
Electives in Music	5
Total	50

SENIOR YEAR

Music Performance Area	*Credits*
Ensemble	3
Courses	
Four courses from MUL 3341, 3351, 3362, 4331, 4361, 4371	16
Foreign Language	10
MUT 3611 Form and Analysis	4
Electives	12
MUS 4905 Project and Problems (Senior Project)	5
Electives in Music	7
Total	51
Total minimum credits	198

5. Curriculum in Church Music. Bachelor of Music Degree.

JUNIOR YEAR

Music Performance Area	*Credits*
Applied Principal	9
Applied minor	3
Ensemble	3
Courses	
MUH 3211, 3212, 3213 History of Music	12
MUG 4101 Conducting	4
Foreign Language	10
Three courses from Physical Sciences, Biological Sciences, Mathematics or PHS 4805	9
Total	50

SENIOR YEAR

Music Performance Area	*Credits*
Applied Principal	9
Senior Recital is required	
Applied minor	3
Ensemble	3
Courses	
MUR 3401 Organ Design and Literature	4
MUR 4801 Music in Worship	4
MUE 4411 Vocal Music Materials	4
MUT 4411 or 4421 MSC 403 or 404 Counterpoint	4
Electives	20
Total	51
Total minimum credits	198

NOTE: Electives must include at least two courses in music literature chosen from MUL 3341, 3351, 3362, 4331, 4361, 4371, and at least one course in religion, REL 340 or 353 or 364 or 407. REL 3202 or 3500 or 3420 or 4520.

Ordinarily the church music major will earn 36 credits (four years of study) in organ or voice, with 6 credits in the other area of organ or voice as the applied minor.

6. Curriculum in Music Education. Bachelor of Music Education Degree.

The purpose of this curriculum is to prepare students to become musicians and music teachers both in private life and in the public schools. It is offered in cooperation with the College of Education and is based on a broad foundation in music. It includes work in theory of music, music literature, music education, applied music, and ensemble.

This is the program recommended for, and which best meets the needs of, the majority of music majors. It provides teaching certification, kindergarten through 12th grade, in Florida and in most other states through the National Council for the Accreditation of Teacher Education.

Piano Skills MVK 2111 must be taken each quarter until the piano proficiency examination is passed; requirement must be met before application for The Advanced Professional Sequence.

A minimum grade of "C" in MUE 3113, 3030, and MUE 4343 or 4404 or 4411 or 4412 is required for the B.M.Ed. degree.

A Mid-point Guidance Conference must be completed before student makes application for the Advanced Professional Sequence.

A minimum grade point average of 2.5 is required of all students making application for student teaching.

JUNIOR YEAR

Music Performance Area	*Credits*
Applied Principal, Incl. Recital	6
MUE 2440, 2450, 2460 Instrumental Skills	6
Ensemble	3
Courses	
MUH 3211, 3212, 3213 History of Music	12
MUE 3113, 3030 Music Education	10
EDF 3122 or 3135 or 3110 Foundations of Education	5
Three courses from Physical Sciences, Biological Sciences, Mathematics or PHS 4805	9
Total	51

SENIOR YEAR

Music Performance Area	*Credits*
MUE 2470 Percussion Skills	2
MUG 4101 Conducting	4
Courses	
MUE 4343 or 4404 or 4411 or 4412 Materials and Administration	4
EDF 3514 or 3604 or 4542 Foundations of Education	5
*EDE 4203 Elementary School Today	4
*ESE 4011 Secondary School Today	5
Approved Electives in Science and Mathematics	10
EDE 4943 and ESE 4943 Student Teaching	16
*Advanced Professional Sequence	
Total	50
Total minimum credits	198

The degree Bachelor of Arts in music is offered through the College of Arts and Sciences with the cooperation of the Department of Music. See the College of Arts and Sciences section of the catalog for the degree.

III. CURRICULUM IN THEATRE

Leading to the Degree of Bachelor of Fine Arts in Theatre. Hooks, E.J., *Chairman and Adviser.*

The B.F.A. program is designed to provide a general comprehension of the theatre as a composite art including studies in theory and dramatic literature plus introductory work in several craft areas essential to dramatic production. The latter are included to provide for comprehension of the complex nature of the art and to insure proper integration of its several craft specialties. Areas of concentration are (1) Performance and Stage Direction (2) Scene Design and Lighting, and (3) Costume, and (4) Dance.

In addition to the BFA degree, the Department of Theatre offers a major in Theatre in the College of Liberal Arts and Sciences leading to the degree of Bachelor of Arts; also in cooperation with the Colleges of Education and Liberal Arts and Sciences the Department of Theatre offers a program in Language Arts Specialty with theatre emphasis, leading to the degree Bachelor of Arts Education. For all programs in Theatre students should consult the Department of Theatre's academic adviser.

BFA — JUNIOR YEAR

I. PERFORMANCE:

TPA 3200 Stagecraft 1	4
TPP 3650 Play Analysis	4
ENL 4135, 4136 Shakespeare	8
TPA 4230 Costume History 1	4
TPA 4231 Costume History 2	4
ORI 2002 Oral Performance 2	4
TPP 3111 Acting 2	4
TPP 3112 Acting 3	4
TPP 3511 Musical Theatre and Movement 2	4
ENG 4471 World Drama 2	4
DAN (Dance courses determined by experience)	4
	48

II. COSTUME:

TPA 3200 Stagecraft 1	4
TPP 3650 Play Analysis	4
ENL 413S, 4136 Shakespeare	8
TPA 4230 Costume History 1	4
TPA 4231 Costume History 2	4
ARC 1115C Basic Drawing	4
ARH 2050 Art History 1	4
ARH 2051 Art History 2	4
ARH 2052 Art History 3	4
TPA 4232 Costume History 3	4
TPA 4060 Scene Design 1	4
	48

III. DESIGN-TECH:

TPA 3200 Stagecraft 1	4
TPP 3650 Play Analysis	4
ENL 4135, 4136 Shakespeare	8
TPA 4230 Costume History 1	4
TPA 4231 Costume History 2	4
TPA 3010 Stagecraft 2	4
TPA 3220 Technical Theatre Principals	4
TPA 4024 Stage Lighting	4
TPA 4060 Scene Design	1
ART 1300 Freehand Drawing	4
	48

IV. DANCE:

Minimum of one course per quarter from 6-9
DAA 2101 Adv. Modern Dance ..... (2 hrs., repeatable)
DAA 3102 Modern Dance III ..... (3 hrs., repeatable)
DAA 4103 Modern Dance IV ..... (3 hrs., repeatable)
TPA 3200 Stagecraft 1 4
TPP 3650 Play Analysis 4
TPA 4230 Costume History 1 4
MUL 2011 Introduction to Music 4
DAA 3700 Dance Composition 2
DAN 3500 Dance Production 3
THE 4905 Independent Study (Dance Composition) 2
DAN 4110 Seminar in Dance History & Philosophy 4
TPA 3290 Theatre Practice 3
TPA 3250 Stage Make-up 3
PET 3320 Applied Human Anatomy 4

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BFA-SENIOR YEAR

I. PERFORMANCE:

THE 4110 Theatre History 1 4
THE 4111 Theatre History 2 4
THE 4112 Theatre History 3 4
TPP 3310 Directing 1 4
TPP 3311 Directing 2 4
**THE 4945 Repertory Theatre 12
TPA 3010 Stage Craft 2 4
Elective (Voice if possible) 4
DAN (Dance classes determined by experience) 3
TPP 3512 Musical Theatre and Movement 3 4

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II. COSTUME:

THE 4110 Theatre History 1 4
THE 4111 Theatre History 2 4
THE 4112 Theatre History 3 4
TPP 3310 Directing 1 4
TPP 3311 Directing 2 4
**THE 4945 Repertory Theatre 12
TPA 4047 Costume Design 4
THE 4905 Individual Study (Costume Mgt.) 4
TPA 4284 Scene Painting 4
TPA 3290L Theatre Practice 3

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III. DESIGN-TECH:

THE 4110 Theatre History 1 4
THE 4111 Theatre History 2 4
THE 4112 Theatre History 3 4
TPP 3310 Directing 1 4
TPP 3311 Directing 2 4
THE 4945 Repertory Theatre II 12
TPA 4063 Scene Design 2 4
TPA 4100 Arch. and Decor for Stage 3
TPA 3270 Equipment Utilization 4
TPA 4284 Scene Painting 4

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IV. DANCE:

Minimum of one course per quarter from 9
DAA 3102 Modern Dance III ..... (3 hrs., repeatable)
DAA 4103 Modern Dance IV ..... (3 hrs., repeatable)
TPP 3310 Directing I 4
THE 4945 Repertory Theatre 12
THE 4905 Independent Study (Readings in Dance History) 4
DAN 3500 Dance Production
THE 4905 Independent Study (Dance Composition III) 2
PET 3350 Applied Human Physiology 4
Electives selected with departmental approval 9
TPA 3290 Theatre Practice 3

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Upper Division Total 95

Total Minimum Degree Credits 191

**THE 4945 Repertory Theatre must be taken in the Summer quarter following the Junior or Senior year. No additional courses may be taken due to time requirements of SRT (Summer Repertory Theatre).

F

School of Forest Resources and Conservation

FORESTRY
WILDLIFE ECOLOGY
RESOURCE CONSERVATION

School of Forest Resources and Conservation

College of Agriculture
Institute of Food and Agricultural Sciences

GENERAL STATEMENT

The School of Forest Resources and Conservation is an upper division unit of the College of Agriculture, University of Florida. The primary objective of the School is to provide professional education in the areas of forestry, wildlife and resource conservation.

All work offered in the School meets the highest requirements of professional education. The School is accredited by the Society of American Foresters. Graduates can qualify for membership in recognized professional organizations, such as Society of American Foresters, Society for Range Management and The Wildlife Society, and, through the selection of appropriate courses can qualify for listing on Federal Civil Service employment registers.

Programs of Study

All programs of the School are designed to provide students with an education of sufficient breadth to qualify them for advancement to positions of responsibility and leadership. In addition to the arts, humanities and social studies offered in the University, students receive thorough training in the basic sciences and in essential aspects of their chosen field.

Graduates of all programs will receive the degree of Bachelor of Science in Forest Resources and Conservation (BSFRC). These programs are designed for students with interests in the management and conservation of forest, range, and wildlife resources. All students must follow a core sequence designed to provide them with a thorough understanding of natural ecosystems and the impacts imposed upon such systems by the varied and multiple needs they serve. Also stressed are the interrelationships between the various professional disciplines needed for effective control, management, and conservation of natural resources.

In conjunction with the core, students follow a program of study designed to provide a professional education in one of the following majors:

FORESTRY — Management of forest lands for the production of fiber, maintenance of wildlife habitat, protection of watersheds, grazing of livestock, and enhancement of recreational opportunities.

WILDLIFE ECOLOGY — Application of basic principles governing the abundance, distribution and ecology of all forms of wild animals (including fish), both game and nongame species. A broad ecological approach to ecosystem management is stressed.

RESOURCE CONSERVATION — Rather than pursuing one of the majors listed above, the student, in consultation with an assigned advisor, may select courses to provide a broad or specific background in natural resources conservation.

Satisfactory completion of the prescribed courses in one of the majors, as certified by the assigned faculty advisor, will be noted on the student's transcript.

FACILITIES FOR INSTRUCTION AND RESEARCH

The School of Forest Resources and Conservation is headquartered in Newins-Ziegler Hall, which was completed in 1976. This modern and attractive structure contains two general classrooms, four teaching laboratories, two conference rooms, carrels for graduate assistants, 22 specialized and 14 common use research laboratories. It also provides office space for School faculty.

Varied facilities for carrying out its instructional and research objectives are available to the School. Several University-owned forests and range lands are available for field laboratories, demonstration and research work. The Welaka Research and Education Center, consisting of 2,500 acres of diversified forest lands, is located in Putnam County, Florida. The Austin Cary Memorial Demonstration Forest, consisting of 2,083 acres of flatwoods forest land located 8 miles northeast of Gainesville, is used as a field laboratory and demonstration and experimental forest where the student receives practical field experience. The School has a nursery, a small sawmill with planer and other necessary equipment, and a bolter saw located on the Austin Cary Forest. Other resource facilities located at this site include a fisheries laboratory and experimental fish ponds. The 420-acre Chinsegut Hill Forest in Hernando County provides a setting for research in the conservation and perpetuation of scenic stands of old-growth pine timber. Diversified land-management operations are studied on the Beef Research Unit and the adjacent Mize Tract, which is being managed primarily for woodland grazing of livestock. Range operations research and instruction are also conducted at the 1,800 acre Agricultural Research Center at Ona, Florida. The Anhinga Roost Property, consisting of some 500 acres of shoreline and lake bottom of nearby Newnan's Lake, is available for research and instruction in freshwater fisheries and wildlife ecology.

Woodlands holdings, in excess of 250,000 acres, of five large pulp and paper companies and several smaller private forestry operations located within a radius of 20 miles of the campus are available for laboratory use. Two of the three National Forests of the state are less than fifty miles from the campus, and Paynes Prairie State Park, a unique 8,000-acre diversified marsh, prairie and hammock area, is within ten minutes travel time of the campus. Several other city, county and state parks and recreational areas, including unique natural areas such as the Devil's Millhopper and the San Felasco Hammock, are nearby and available for research and study by students interested in forest recreation, wildlife ecology and natural resources conservation.

There are several forest products industries located in the vicinity of Gainesville; a wood-preservation plant, a plywood plant, pole and cross-tie yard, pallet mill, charcoal briquetting plant, box and crate factory, and several sawmills. Wildlife management areas, numerous lakes and streams with varied management problems, ranches, and private and commercial forest holdings are located in the vicinity. Visits to these supplement the student's training in resource management conservation.

Computer terminals connected to the University Computing Center and other modern computational equipment are available in the School to students enrolled in its programs. Also, mapping, aerial photo interpretation, drafting and analytical equipment are available.

Resource publications are housed primarily in Hume Library, a unit of the University Library System. This is a comprehensive collection which is kept current by frequent additions. It includes all important serials as well as the publications of all major forest, fisheries, wildlife, and range research organizations.

REQUIREMENTS FOR ADMISSION

General: The University of Florida and the School of Forest Resources and Conservation encourage applications from qualified students from all cultural, racial, religious and ethnic groups. Listed below are the specific requirements for admission to this School. It should be understood, however, that only minimum requirements are given, and that admission is a selective process based upon a student's total academic qualifications, space availability, and limitations on

the resources needed to maintain a high quality academic program and atmosphere.

For admission to upper division status in the School of Forest Resources and Conservation, applicants must have completed 96 quarter-hour credits of general education and preprofessional courses, or their equivalent (see preprofessional program). The general educational and preprofessional courses (in quarter-hour credits) include English (9), social sciences (9), humanities (12), behavioral studies (4), and physical education (2), analytical geometry and calculus (10), biological sciences (12-13), economics (10), general chemistry and qualitative analysis with lab (12-16), physics with lab (10) and, statistics (4).

The following conditions will serve as a guide in expediting transfer to the School. Transfer students are encouraged to complete the Associate of Arts degree at a community college (including the general education requirements established by the community college), have a minimum GPA of 2.3, and have completed the required preprofessional program. Students transferring from another unit of the University of Florida, or from another four-year institution will be required to have completed the equivalent of the preprofessional program and will be subject to the provisions for admission as specifically listed below.

Unconditional Admission: A student may be admitted directly to upper division status in the School upon completion of 96 quarter hours of credit (64 semester hours), including all general education and preprofessional course requirements, has an overall GPA of 2.3, or better, and has a minimum GPA of 2.0 in all preprofessional courses in the biological and physical sciences, mathematics, economics, and statistics.

Provisional Admission: The School's Admissions Committee may grant an applicant provisional admission to the School under the following guidelines:

1. The student must have completed a minimum of 96 quarter-hour credits (64 semester hours) including all general education requirements, with a minimum overall GPA of 2.0 and with a minimum 2.0 average in all preprofessional courses in the biological and physical sciences, mathematics, economics, and statistics coursework attempted.

2. The student may be deficient in no more than a total of 10 quarter hours of second-term preprofessional coursework in calculus, economics, physics, or analytical chemistry.

3. Based upon quality of previous academic records, test data, and pattern of courses previously completed, priority will be given to those applicants whose potential indicates the greatest likelihood of success in the program requested.

4. Students admitted on a provisional basis must earn a grade of "C" or better in all courses during their first two quarters following provisional admission, and must complete all pre-professional course deficiencies, with a grade of "C" or better in each, within the first four quarters in residence following provisional admission.

5. Failure to comply fully with provisional admission requirements will result in exclusion from further enrollment in the School.

Entry Time for Students: Students who have completed all of their preprofessional coursework should plan their initial enrollment in the School preferably during the fall or spring quarter. Students who have not completed all of the preprofessional courses in time to enter the School during a fall or spring quarter are advised to contact the School of Forest Resources and Conservation for guidance.

GENERAL ACADEMIC REGULATIONS

Student Responsibility: The student must assume responsibility for registering for the proper courses, completing said courses, maintaining normal academic progress, and fulfilling all requirements for his/her degree.

Normal Credit Hours: The average course load for students in the School of Forest Resources and Conservation is 15 credit hours per quarter. Upon approval of a faculty advisor, students may be permitted to register for additional hours if their academic record justifies the additional work load. Students should be aware that certain university privileges and benefits require a minimum registration of 12 hours per quarter.

Advisement: Upon arrival at the School of Forest Resources and Conservation, a student should contact the Student Records Office of the School. The student will be assigned a faculty advisor appropriate for the desired major. The faculty advisor's role is to assist the student in selecting a major, as well as elective courses suited to the student's interests. Students are encouraged to follow the course sequences approved by the faculty for each major. In the event of course scheduling conflicts, students may, with the consent of the advisor, substitute up to 12 quarter hours of major courses; this substitution may include only one core course.

Residence Requirements: The last 45 quarter hours to be applied toward the bachelor's degree must be completed while registered as a student in the School of Forest Resources and Conservation. In special cases, this requirement may be waived. A student must petition for a waiver of these residence requirements and have said petition approved by the faculty of the School in advance of taking non-resident coursework, including correspondence courses.

Correspondence/Extension Courses: No student may apply more than 26 quarter hours of correspondence, extension, or non-resident coursework toward the bachelor's degree, of which no more than 12 quarter hours may be applied in any one quarter, nor more than 18 quarter hours in any academic year. Any student intending to apply correspondence coursework towards a degree must have a minimum Upper Division GPA of 2.3, and have prior written approval from his/her academic advisor and the Director of the School, or his designated representative.

Adding/Dropping/Withdrawing: Courses may be added or dropped during the regular drop/add period at the beginning of each quarter. After the regular drop/add period, courses may be dropped subject to the following restrictions:

1. A course may be dropped between the first week and the end of the fifth week of classes with no penalty, upon approval of his/her academic advisor.

2. No more than three (3) such drops, after the University's drop/add period, will be permitted in the student's upper division career in SFRC, and no course may be dropped more than one (1) time.

3. After the fifth week of classes and before the last two weeks of the quarter, no petition will be approved except for documented hardships or medical reasons. Petitions to drop a course within this time period are presented, with the advisor's recommendation, to the SFRC Petitions Committee for consideration.

4. Colleges no longer maintain authority to approve students to drop courses after the deadline date published in catalog for withdrawing without receiving failing grades. In the event of documented hardships occurring after this deadline, students must petition the University Petitions Committee for approval to drop a course or withdraw from school.

Documentation of the need to drop a course will not mean automatic approval. Approval will be subject to the discretion of the faculty. Each student should assess the need to drop a course as soon in the quarter as possible. Overloads will not generally constitute a hardship.

Normal Academic Progress/Probation/Exclusion: An SFRC undergraduate student whose Upper Division GPA drops below 2.00 (computed for all U.F. credits taken beyond 96 hours) shall be considered as not making normal academic progress, and therefore is subject to the provisions of the Exclusion Rule (see Student Academic Regulations section of this catalog). Such students will be allowed two additional quarters in attendance as full-time students in the School to bring their cumulative Upper Division GPA to 2.00 or above; otherwise, said students will be excluded from further en-

rollment in the School; part-time students will be allowed 24 credit hours to reach a 2.00 cumulative upper division GPA. No student, either full- or part-time, may make any grade less than "C" while subject to the above probationary policy. Post-baccalaureate students are subject to the above policy as it applies to all U.F. coursework at the 6FY level.

Students admitted on a provisional basis are considered to be on School probation and are required to rectify their provisional admission restrictions during their first four quarters in residence. Failure to satisfy the conditions for provisional admission will result in a student's exclusion from further enrollment in this School.

Petitions: A student who feels that a School regulation presents an undue hardship or injustice may submit a petition to the SFRC Petitions Committee for a waiver of the regulation involved. Information on petitions procedures may be obtained from the Student Records Office in the School.

Graduation Requirements: To be eligible for the Bachelor of Science in Forest Resources and Conservation Degree, the student must:

1. satisfactorily complete all courses required for a degree in an approved major from this School;
2. earn a minimum of 200 acceptable quarter-credit hours;
3. have a minimum cumulative Upper Division GPA of 2.00 (computed for all U.F. Coursework taken beyond the 96 hours required for attaining upper division status in SFRC), and a minimum cumulative GPA of 2.00 in all courses required for the major.
4. complete the last forty-five credits applied toward the baccalaureate degree during regular residence in the School of Forest Resources and Conservation.
5. file formal application for the degree in the Office of the Registrar during the quarter they expect to receive the degree. The official calendar shows the latest date each quarter for filing degree applications.

DEAN'S LIST AND GRADUATION WITH HONORS OR HIGH HONORS

For requirements see the general statement for Dean's List and Graduation with Honors or High Honors, College of Agriculture.

CURRICULUM

JUNIOR AND SENIOR YEARS

Core courses required of all Students:

	Credits
FNR 3050 Introduction to Natural Ecosystems	6
FNR 3011 Biological Principles of Natural Resources Management	3
FNR 3421 Quantification in Natural Resources Management	5
FNR 3650 Decision Making in Natural Resources Management	4
FNR 4931 Seminar	1
FNR 4660 Natural Resources Management Policy	3
FNR 4623 Integrated Natural Resources Management	3
	25*

*In addition to the 25 hours listed here, all students in the School of Forest Resources and Conservation are required to complete 3-5 credits of advanced communications during their baccalaureate program.

Required of Forestry Majors:

	Credits
FOR 3140 Wood Structure, Properties and Use	4
SUR 3101 Engineering Measurements	2
ECI 4905 Forest Surveying	1
FOR 3120 Dendrology	4
SOS 3022 General Soils	5
FOR 3333 Fundamentals of Forest Pathology	3
ENY 3541 Forest Insects	3
SUR 3331C Photogrammetry	3
FOR 3430 Forest Resources Measurement	5
FOR 4162 Foundations of Silviculture	5
FOR 4212 Forest Fire Control and Use	3
FOR 4541 Forest Economics	4
FOR 4621 Principles of Forest Management	3
FOR 4753 Forest Operations	4
MAN 3010 Principles of Management or PAD 4003 Introduction to Public Administration	4
Electives	21-23
	74-76

Required of Wildlife Ecology Majors:

	Credits
FOR 3120 Dendrology	4
FOR 3123 Range Plants	4
WIS 3401 Fundamentals of Wildlife Ecology	4
WIS 4541 Terrestrial Wildlife Resources	5
WIS 4443 Wetlands Wildlife Resources	5
WIS 4220 Introduction to Fishery Science	4
ZOO 3303 Vertebrate Zoology	5
ZOO 3803 Field Problems in Vertebrate Zoology	4
ZOO 3203 Invertebrate Zoology	5
ZOO 3703 Functional Vertebrate Anatomy	5
PCB 4044 General Ecology, or PCB 3043 Introduction to Ecology	5
PCB 3063, or AGR 3303 Genetics	5
Electives	20-22
	75-77

Required of Resource Conservation Majors:

Students desiring a degree in Resource Conservation must prepare a plan of study which includes program objectives and a list of coursework. This plan must be approved by the Director. Coursework must include a minimum of 5 FNR, FOR, or WIS courses, in addition to the 25 core course credits required of all students.

In addition to these required courses, students in all majors must complete graduation requirements described earlier.

MASTER'S DEGREE

Courses are offered in the Graduate School leading either to the Master of Science degree or the Master of Forest Resources and Conservation. The former degree requires a thesis; the latter does not.

For the requirements for these degrees, see the catalog of the Graduate School.

PH.D DEGREE

The School offers the Ph.D. degree in the broad areas of forest biology and wildlife ecology and participates with other departments in offering Ph.D. programs.

For the requirements for this degree, see the catalog of the Graduate School.

College of Health Related Professions

ALLIED HEALTH
CLINICAL AND COMMUNITY DIETETICS
CLINICAL PSYCHOLOGY
HEALTH AND HOSPITAL ADMINISTRATION
MEDICAL TECHNOLOGY
OCCUPATIONAL THERAPY
PHYSICAL THERAPY
REHABILITATION COUNSELING

College of Health Related Professions

GENERAL STATEMENT

The College of Health Related Professions, an academic unit of the J. Hillis Miller Health Center, provides an opportunity to train needed personnel representing various health careers. This College offers professional curricula leading to undergraduate degrees in allied health, clinical and community dietetics, medical technology, occupational therapy, and physical therapy; master's of health science degrees in occupational therapy and rehabilitation counseling; and a graduate program in health and hospital administration in cooperation with the College of Business Administration. The Department of Clinical Psychology's academic program leads to the Ph.D. in Psychology and the department also offers a nationally accredited predoctoral internship in Clinical Psychology. The Department of Communicative Disorders provides clinical and research opportunities for advanced students in speech pathology and audiology in the College of Arts and Sciences. A Rehabilitation Research Institute relates to ongoing research and assists members of the staff and students with research proposals and projects.

Three resources common to all these academic programs are accessibility of patients in the Shands Teaching Hospital and Clinics, availability of staff and facilities of the College of Medicine, and the presence of a wide range of established course offerings to be found in a large university. The effective operation of various medical, hospital and rehabilitation programs depends upon well trained and properly oriented personnel. The geographic location with the colleges of Dentistry, Medicine, and Nursing strengthens the respective programs of this College by making it possible for those who are to work together to be trained together.

REQUIREMENTS FOR ADMISSION

Listed below are the specific requirements for admission to the undergraduate programs offered in this College. Because these are undergraduate programs, selections are made from among those applicants who have not previously completed requirements for a baccalaureate degree (with the exception of physical therapy — see physical therapy general statement, accelerated program). It should be understood that minimum requirements are listed. Admission to this college is a selective process, and satisfaction of minimum requirements does not automatically guarantee admission. A student's total record including educational objective, courses completed, quality of academic record, completion of SCAT test, and knowledge of that field will all be considered in evaluating an application for admission. The Department of Clinical and Community Dietetics, in addition to the above, requires that applicants take the Allied Health Admissions Test. Priority in admission will be given to those applicants whose potential on the basis of their total record indicates the greatest likelihood of success in the professional field selected.

The Dean and faculty of the College of Health Related Professions are aware of the need to prepare well qualified graduates in the various baccalaureate degree programs. Limitations in available staff, faculty and facilities make it necessary that the college establish quotas for the admission of students.

The student should consult the appropriate department chairperson in the college as early as possible regarding his/her program. However, at the time the student files an application for admission into the University, the student *must* consult with the appropriate department in order to receive additional admission requirements which must be fulfilled or arranged for prior to the March 15th deadline. The sequence of professional courses in all programs begins only in the Fall quarter of the Junior year. (Allied Health Program admits each quarter).

Students Classified UF: To be eligible for admission to the College of Health Related Professions, a University College student must have: (1) earned at least 96 quarter hours of acceptable college credit with an overall average of 2.6 or higher on all college level work attempted; (2) completed all lower division courses required for the desired curriculum as indicated in the program for the Freshman and Sophomore years outlined in the University College section of this catalog; and (3) passed all required preprofessional courses within the lower division curriculum with an overall average of 2.6 or higher (with the exception of Medical Technology).

Transfer Students: To be eligible for admission to the College of Health Related Professions a student must satisfy the minimum requirements for admission to an Upper Division College set forth in the admissions section of this catalog. Each student should contact directly the specific department to which he wishes to gain admission. Additionally, the applicant must satisfy the following specific requirements for admission to the College of Health Related Professions: (1) Must have completed the courses required for the desired curriculum (or their equivalent with a 2.6 average or higher, with the exception of Medical Technology) as indicated in the program for the Freshman and Sophomore years outlined in the University College section of this catalog, and (2) passed all required preprofessional courses with an overall average of 2.6 or higher (with the exception of Medical Technology).

A. Students attending four year colleges, who wish to transfer after two years, should follow a program of general education and preprofessional courses similar to the Basic Curriculum for the Freshman and Sophomore years for students planning to enter the College of Health Related Professions.

B. Junior College students should:

1. Complete the two-year college parallel program at the junior college.

2. Satisfy the general education requirements established for the junior college.

3. Complete the following courses which are prerequisite for admission to the undergraduate program as designated:

a. Clinical and Community Dietetics
General Chemistry and qualitative analysis
Organic chemistry, with laboratory
Zoology or biology with laboratory (1 year course, i.e. three quarters or two semesters)
Botany (one quarter or one semester)
General psychology
Introduction to health related professions, if available
Basic nutrition course, if available
Statistics

b. Medical Technology
General chemistry and qualitative analysis
Zoology or biology with laboratory (1 year course, i.e. 2 semesters or 3 quarters)
Organic chemistry
Quantitative analysis
Statistics
Introduction to health related professions, if available

c. Occupational Therapy
Zoology or biology with laboratory (1 year course, i.e. 2 semesters or 3 quarters)
General psychology
Psychology of personality
Studio arts and crafts, if available
Introduction to health related professions, if available
Observation in settings where occupational therapists work.

d. Physical Therapy
General chemistry and qualitative analysis
Physics
Zoology or biology with laboratory (1 year course, i.e. 2 semesters or 3 quarters)
General psychology
Personality development
College Algebra

C. Health technician students should:

1. Have completed a two year associate degree in an allied health technology.

2. Be registered or licensed in his/her health related specialty.

3. Have work experience in his/her health related specialty.

If the junior/community college does not offer courses that are required for admission to the student's selected curriculum in the College of Health Related Professions, the student should consider transfer to the University prior to graduation from the junior college provided he is eligible for admission to the University College. The student is encouraged to consult the appropriate Department Chairman at the University as early as possible regarding his program.

PROBATION, SUSPENSION, AND EXCLUSION FOR ACADEMIC REASONS

(1) If a student in the College of Health Related Professions receives a grade of "D" or "D+" in a required course in the program, the faculty may provide an opportunity for the student to make up material through independent study or the student may be asked to repeat the course.

(2) If a student receives a second grade of "D" or "D+" in a required course in the curriculum, the student will be required to withdraw from the program. Upon petition to the Department Faculty Committee, and on a space available basis, the student may be allowed to repeat the second required course in which the grade of "D" or "D+" was received. Following completion of this course, with a grade of "C" or higher, the student may continue in the program. In Physical Therapy, the student who receives a second grade of "D" or "D+" will be required to withdraw from the program.

(3) If a student receives an "E" in a required course, the student must withdraw from the program. If space is available, upon petition to the Department Faculty Committee, the student may be permitted to repeat the course the next time it is offered and must achieve a grade of "C" or better. In Physical Therapy, the student receiving an "E" in a required course will be required to withdraw from the program.

(4) If the student receives an "Unsatisfactory" grade in a required course graded on a "S-U" basis, the faculty may provide opportunity for the student to make up material through independent study or the student may be asked to repeat the course.

(5) If a student receives two "Unsatisfactory" grades in required courses graded on a "S-U" basis, the student will be required to withdraw from the program.

(6) If a student receives a grade less than "C" in a required course, and an "Unsatisfactory" grade in a required course graded on a "S-U" basis, the student will be required to withdraw from the program.

In addition to University probation, students may be placed on probation by the College of Health Related Professions if they do not maintain normal academic progress in the program of study in which they are engaged.

A student with less than a 2.0 grade point average overall for work completed after acceptance into the College of Health Related Professions shall be placed on scholarship warning if he or she has a grade point deficit which is less than 10.

A student with less than a 2.0 grade point average overall for work completed after acceptance into the College of Health Related Professions shall be placed on scholarship probation if he or she has a grade point deficit of 10 or more, but less than 20.

GRADUATE PROGRAMS

Graduate work in health and hospital administration leads to the degree, Master of Business Administration. Major responsibility for the program rests with the College of Business Administration and the College of Health Related Professions. For requirements for this degree, consult the *Graduate School catalog.*

Graduate work in occupational therapy leads to the degree of Master of Health Science. For requirements for this degree, consult the *Graduate School catalog.*

Graduate work in rehabilitation counseling leads to the degree of Master of Health Science. For requirements for this degree, consult the *Graduate School catalog.*

Graduate work in clinical psychology leads to the degree of Doctor of Philosophy in psychology. For requirements for this degree, consult the *Graduate School catalog.*

HEALTH POLICIES

The College of Health Related Professions requires evidence of sound physical and mental health for admission.

At the beginning of the Junior and Senior years, personnel of the Department of Student Health will test each health related professions student for sensitivity to tuberculosis. The Department of Student Health will verify immunization against diphtheria and tetanus.

Each student registered in clinical courses is required to have some form of hospitalization insurance. Fulltime students are eligible for the health insurance plans sponsored by the Student Government which may be purchased at the time of registration. This provides twelve month coverage.

HONORS

GRADUATION WITH HONORS

To graduate with honors, each program will identify only the top 20% of the students in its graduating class by Upper Division grade point average, which will be computed after acceptance into the College of Health Related Professions as an Upper Division student. A minimum of 60 quarter credits while enrolled in the College of Health Related Professions program is needed in order to be eligible. In addition, the individual program will establish additional criteria which must be met by this 20% to graduate with honors and if the students identified in the top academic 20% of the class do not qualify for departmental outstanding category, they will not be recommended for graduation with honors by the faculty. Thus, less than 20% would graduate with honors.

DEAN'S LIST

The Dean's List recognizes outstanding academic achievement at the completion of each quarter. Inclusion on the list is awarded to all students who during that term have earned a grade point average 3.65 or higher on course work of at least 12 hours.

ALPHA ETA SOCIETY

Alpha Eta Society is a national honor society for students in the health related professions. The University of Florida's chapter is the first and charter member of the Society. Alpha Eta is an officially recognized campus organization and the first of its kind in the country. Members are chosen from any degree offering division of the College. The purpose of this society is to encourage and recognize scholarly and professional attainments and to promote the advancement of professional standards in the health related professions.

PROFESSIONAL ORGANIZATIONS AND CLUBS

Students are also eligible for other university honorary fraternities. In addition, each curriculum has professional clubs associated with it which all interested students are eligible to join.

EXPENSES

In addition to the usual University tuition and fees, students will be expected to furnish designated uniforms and shoes for clinical work. This will be necessary for students in occupational therapy, physical therapy, and clinical and community dietetics in the Junior and Senior year and for students in medical technology in the Senior year.

Field experience is required of students in occupational therapy and physical therapy. The student shall be responsible for financing this portion of his preparation. Costs vary depending upon location of the field assignment.

STUDENT AID

Students interested in part-time employment, assistantships, loans, prizes, and awards should apply to the office of Student Financial Aid, University of Florida, Gainesville, Florida. A limited amount of scholarship, traineeship, and loan assistance reserved exclusively for students in the College of Health Related Professions, is administered by the College. Application for such assistance is made to the Chairman of the department in which the student plans to major.

ALLIED HEALTH PROGRAM FOR HEALTH TECHNICIANS WITH ASSOCIATE DEGREES

GENERAL STATEMENT

This program is designed for allied health personnel who have an associate of art, science, or applied science degree in specific health related programs such as respiratory therapy, dental hygiene, nursing, radiologic technology, etc. Two (2) years' work experience in the field is desirable.

The objective of this program is to expand the capabilities of associate degree health related personnel so that they may be able to assume greater responsibilities in the health care system by (1) developing capabilities in middle management supervisory skills in various health care facilities such as hospitals, nursing homes, health maintenance organizations, etc., and (2) developing competencies in individuals who wish to teach their technical specialties in the community colleges and/or other appropriate institutions.

CURRICULUM

Since students admitted in this program have varied backgrounds, each student's transcript will be evaluated and an individualized curriculum will be developed to maximize the student's previous academic background and vocational goals. College credits of students accepted with an Associate of Science or Applied Science degree will be credited only to this program. Students who wish to transfer to other University degree programs before completion of this program will have their credentials re-evaluated by the college offering the degree. A maximum of 64 semester (96 quarter) hours of credit transferred from or through a junior college may be applied toward the quantitative requirements for a University of Florida degree.

A selections committee determines the student's eligibility for admission to the program. Enrollment is based upon the limitations imposed by laboratory and clinical facilities. Admission to the University does not guarantee admission to this program.

The Bachelor of Health Science degree is awarded upon the satisfactory completion of the course requirements for this program.

UPPER DIVISION REQUIREMENTS FOR BACHELOR OF HEALTH SCIENCE PROGRAM FOR THE ALLIED HEALTH TECHNICIAN WITH AN ASSOCIATE DEGREE:

The student admitted into the program must complete courses in Sections I, II and III below.

I. The Core	*Credits*
HCA 4112 The American Health Care System	3
HCA 4511 Supervisory Skills in Health Care Administration	3
HCA 4802 Practicum	6
HSC 4151 Legal Issues in Health Care Delivery	4
HSC 4162 The Hospital and Related Organizations	4
HSC 4390 Ethical Issues in Health Care Delivery	4
HSC 4391 Social Issues in Health Care (or equivalent)	4
STA 3013 Statistics for the Social Sciences (or HSC 4573)	4
Total	32

II. Cognate Electives

The student must complete a minimum of 15 hours of cognate electives. The following are examples of cognate courses; additional cognates will be developed in consultation with appropriate colleges.

APB 3203 Basic Human Anatomy and Physiology	4
ENC 3343 Basic Technical Writing	3
EVT 4307 Special Methods and Materials for Teaching Vocational-Technical Health Occupations	4
EVT 6170 Technical Education in Post High School Programs	4
HCA 4910 Humanistic Issues in Health Care	4
HSC 4221 Introduction to Evaluation in Health Sciences	3
HSC 4573 Research Methods in Health Science	4
HSC 4930 Special Topics: Case Studies in Health Care Supervision	3
HSC 4930 Special Topics: Death and Dying	4
MAN 3010 Principles of Management	4
PPE 4104 Introduction to Humanistic Psychology	4
RMI 4120 Health Insurance	4

III. General Education

The curriculum completed by individuals with an associate degree in a specific health technology varies greatly in the number of hours and types of general education courses. The number of courses and credits transferable to meet the University's general education requirements will be determined by the College of Health Related Professions Dean's Office. The University requires no less than 54 quarter hours of general education to be completed in order to graduate with the Bachelor of Health Science degree. General education courses should be balanced to include work in five of the following areas: Mathematics, English, Social Sciences, Behavioral Studies, Humanities, Physical Sciences, and Biological Sciences, with a minimum of 9 credits in each of three areas.

IV. Other Electives

Additional courses taken to complete the total number of credits required to graduate should include course work which would serve to strengthen the background knowledge and special interests of the student's.

Maximum quarter credits accepted for transfer	96
Upper division credit requirements	94 to 104
Credit requirements for BHS degree	190 to 200

ALLIED HEALTH PROGRAM FOR DENTAL HYGIENISTS WITH ASSOCIATE DEGREES

GENERAL STATEMENT

This program is designed for allied health personnel who have an associate of science, or applied science, degree in the specific health related area of dental hygiene.

The objective of this program is to prepare associate degree dental hygienists for greater responsibilities in the health care system by (1) strengthening their technical competencies, (2) developing minimal capabilities for the field of dental hygiene education and (3) developing their capabilities in middle management skills in various health care facilities such as hospitals, nursing homes, health maintenance organizations, etc.

CURRICULUM

Since students admitted to the Bachelor of Health Science program have varied backgrounds, each student's transcript will be evaluated and an individual curriculum will be developed to maximize the student's previous academic background and vocational goals. College credits of students accepted with an Associate of Science or Applied Science degree will be credited only to the Bachelor of Health Science program. Students who wish to transfer to other University degree programs before completion of the Bachelor of Health Science program will have their credentials re-evaluated by the college offering the degree. No more than 64 semester (96 quarter) hours of credits transferred from or through a junior college may be applied toward the quantitative requirements for a University of Florida degree.

A Selection Committee determines the students eligibility for admission to the program. Enrollment is based on limitations imposed by laboratory and clinical facilities and materials. Admission to the University does not guarantee admission to this program.

The Bachelor of Health Science degree is awarded upon the satisfactory completion of the course requirements for this program.

UPPER DIVISION REQUIREMENTS FOR BACHELOR OF HEALTH SCIENCE FOR THE DENTAL HYGIENISTS WITH ASSOCIATE DEGREES:

The student admitted into the program must complete courses in Sections I, II and III.

I. The Core	*Credits*
HCA 4112 The American Health Care System	3
HCA 4511 Supervisory Skills in Health Care Administration	3
HCA 4802 Practicum	9
HSC 4905 Individual Study: Oral Health and Disease in the Population	4
HSC 4905 Individual Study: Perio Treatment Planning and Disease Control Therapy	3
HSC 4391 Social Issues in Health Care (or equivalent)	4
HSC 4930 Special Topics: Periodontal Pathology and Clinical Diagnosis	9
Total	29

II. A. Cognate Electives

The student must complete a minimum of 11 hours of cognate electives. The following, or equivalent, cognate courses should be taken; additional cognates will be developed in consultation with appropriate colleges.

APB 3203 Basic Human Anatomy and Physiology	4
HSC 4221 Introduction to Evaluation in Health Sciences	3
HSC 4573 Research Methods in Health Sciences	4
HSC 4162 The Hospital and Related Organizations	4
HSC 4390 Ethical Issues in Health Care Delivery	4
HSC 4930 Special Topics: Case Studies in Health Care Supervision	3
EVT 6170 Technical Education in Post High School Programs	4
EVT 6381 Teaching Technical Education	4
EVT 4307 Special Methods and Materials for Teaching Vocational-Technical Health Occupations	4

II. B. Cognate Electives-Dental (Students must take two of the following)

HSC 4905 Individual Study: Foundations of Human Behavior	3
HSC 4930 Special Topics: Dentist as a Community Resource	3
HSC 4930 Special Topics: Practice Management	3
HSC 4905 Individual Study: Background, Organization, and Responsibilities of the Dental Profession	4

III. General Education

The number of courses and credits transferable to meet the University's general education requirements will be determined by the College of Health Related Professions Dean's Office. The University requires no less than 54 quarter hours of general education to be completed in order to graduate with a Bachelor of Health Science degree. The general education courses should be balanced to include work in five of the following areas: Mathematics, English, Social Sciences, Behavioral Studies, Humanities, Physical Sciences and Biological Sciences, with a minimum of nine credits in each of three areas.

IV. Other Electives

Additional courses may be taken to make up the total number of credits required to graduate. These courses may be those which would serve to strengthen the background knowledge of the student's technical health related competencies.

Maximum quarter credits accepted for transfer	96
Upper division credit requirements	94-104
Credit requirements for BHS degree	190-200

CLINICAL AND COMMUNITY DIETETICS GENERAL STATEMENT

Clinical and Community Dietetics offers a challenging career for young men and women who are interested in science, health care and food, and who like to work with people as individuals and groups. The selection of food to supply required nutrients for optimal health is an integral part of comprehensive health care. The dietitian brings to the health care team knowledge of the composition of food, knowledge of individual nutrient requirements throughout the life span and the ability to modify texture and nutrients in the diet as necessitated by disease.

The clinical dietitian is a specialist who works with the medical team and assumes responsibility for the nutritional component of comprehensive health care. The specialist estimates nutrient intakes and requirements in a variety of situations, determines how individual dietetic needs can be met, and instructs and counsels the individual patient. The clinical dietitian diagnoses nutritional problems and designs new dietetic approaches to the management of specific diseases. The individual may design the nutrition component of research protocols and implement the controlled diets necessary for medical research.

The community dietitian knows the community resources available for comprehensive health care, works with nutritionally vulnerable individuals and groups in the community, and functions as a member of the community health team. Clinical and community dietitians may serve as consultants, advisers, supervise supportive personnel and participate in educational activities in a variety of settings.

REGISTRATION

Satisfactory completion of the academic and clinical requirements is the basis for professional membership in the American Dietetic Association and eligibility to take the registration examination. Successful passing of this examination qualifies the candidate as a Registered Dietitian (R.D.). National registration is the basis for employment in civilian, military, state and federal hospitals throughout the United States.

CURRICULUM

The Bachelor of Health Science with a major in clinical and community dietetics is awarded upon completion of the course requirements in the curriculum. The program is designed to meet the requirements of the American Dietetic Association.

The sequence of professional courses in clinical and community dietetics begins in the Fall quarter of the academic year and requires seven quarters to complete.

A selections committee determines the students who are to be accepted. Enrollment is based upon the limitations imposed by laboratory and clinical facilities. Admission to the University does not guarantee admission to this curriculum. For specific requirements for undergraduate admission, refer to the section on "Requirements for Admission" to the College.

Students planning to major in Clinical and Community Dietetics should contact the Program Director at the earliest possible date by letter and/or personal interview. A personal interview is required of all applicants.

Selection of students to enter the program in the Fall will be accomplished during the Spring quarter. Application materials should be submitted by March 15.

REQUIREMENTS FOR BACHELOR OF HEALTH SCIENCE IN CLINICAL OR COMMUNITY DIETETICS

FRESHMAN YEAR

	Credits
Social Sciences	9
BSC 2010C-2011C-2012C - Biological Sciences Integrated Sequence	12
CHM 2040-2041C-2042C-2043C General Chemistry	16
MAC 1132 Algebra and Trigonometry	5
Physical Education	2
Electives	4
Total	48

SOPHOMORE YEAR

	Credits
Humanities	12
English	9
CHM 3200 Organic Chemistry	4
CHM 3200L Organic Chemistry Laboratory	2
HSC 1001 Introduction to Health Related Professions	2
HUN 2201 Fundamentals of Human Nutrition	4
PSY 2013 General Psychology	4
Behavioral Studies	3
STA 3023 Introduction to Statistics	4
Electives	4
Total	48

JUNIOR YEAR

	Credits
HUN 3122 Nutrition and Environmental Factors	4
MCB 3020 Basic Biology of Micro-organisms	3
MCB 3020L Basic Biology of Microorganisms Laboratory	2
FOS 3042 Introductory Food Science	4
FOS 4222 Food Microbiology	5
DIE 3124 Principles of Dietetic Management	4
APB 3203 Basic Anatomy and Physiology	4
HUN 3221 Introduction to Human Nutrition	4
BCH 3613 Introduction to Human Molecular Biology	3
DIE 3535 Dietetics	6
Electives	9
Total	48

SENIOR YEAR

	Credits
DIE 4174 Food Systems Management	8
HUN 4241 Human Nutrition	4
DIE 4355 Community Dietetics I	8
FOS 4311 Food Chemistry	5
DIE 4274 Clinical Dietetics I	8
DIE 4516 Seminar in Clinical and Community Dietetics	4
Total	37

4th Quarter (spring)

Community Dietetics Option

DIE 4376 Community Dietetics II	10
HSC 4905 Individual Study in Clinical and Community Dietetics	3
Total	13

Clinical Dietetics Option

DIE 4276 Clinical Dietetics II	10
HSC 4905 Individual Study in Clinical and Community Dietetics	3
Total	13
Total	194

MEDICAL TECHNOLOGY GENERAL STATEMENT

Medical technology encompasses the largest single group of clinical laboratory workers. As the number and complexity of clinical laboratory examinations and procedures continue to expand, the need for well-educated medical technologists for service, teaching, research, and administrative positions increases. Many excellent employment opportunities are available for men and women with degrees in medical technology.

Medical technologists furnish physicians with the laboratory data used in the diagnosis and treatment of patients and in medical education and research. They carry out the great majority of examinations of blood and other body fluids, isolation and identification of disease producing organisms, blood banking procedures, serological tests, and related laboratory studies. They prepare body tissues and other materials for further specialized examinations by pathologists and other clinical laboratory specialists. Most medical technologists work in hospitals or other clinical, research, and public health laboratories and in physicians' offices. They also have excellent employment opportunities in the biological and pharmaceutical firms, in veterinary medicine, and in many related areas.

LICENSURE:

All laboratory personnel in Florida must be licensed except those employed in federal government institutions and in laboratories operated by not more than 5 physicians for performance of procedures on their patients only. Requirements for licensure under Florida Clinical Laboratory Law, Chapter 483, Florida Statutes, 1967, can be found in Rules Chap. 10D-41, State of Florida. Division of Health. Examinations for licensure are given semi-annually by the State.

PROFESSIONAL ORGANIZATIONS

Lambda Tau is a national medical technology honor society with established chapters in undergraduate colleges and universities. Its purposes are: to develop a spirit of cooperation and unity among students entering any of the fields of medical laboratory technology; to stimulate a higher type of ideal for scholastic effort, to encourage research, and to help develop the professional character of the work itself; and to interest other students in these fields. Students maintaining a required scholastic average are eligible for membership.

Students enrolled in the professional curriculum may become student members of the American Society for Medical Technology.

CURRICULUM

The Bachelor of Health Science in Medical Technology is awarded upon the satisfactory completion of the course re-

quirements in the medical technology curriculum. The curriculum has been approved by the Council of Medical Education of the American Medical Association. Satisfactory completion of these requirements is the basis for eligibility for examination by the Registry of Medical Technologists of the American Society of Clinical Pathologists. Successful passing of this examination qualifies the candidate for certification as a Registered Medical Technologist, M.T. (A.S.C.P.). Graduates of the curriculum are also eligible to take other national certification examinations, e.g., certification as a Clinical Laboratory Scientist (CLS) by the National Certification Agency for Medical Laboratory Personnel. Graduates may become active members in the American Society for Medical Technology. This medical technology program also meets requirements for admission to licensure examinations in those states which regulate the practice of medical technology.

A Selections Committee determines the students who are to be accepted. Enrollment is based upon the limitations imposed by available laboratory and clinical facilities and materials. Admission to the University does not guarantee admission to this curriculum.

Consult the section of the catalog entitled College of Liberal Arts and Sciences, Information for Freshman and Sophomores, College of Health Related Professions for listings of preprofessional course requirements.

REQUIREMENTS FOR BACHELOR OF HEALTH SCIENCE IN MEDICAL TECHNOLOGY:

FRESHMAN YEAR

	Credits
Social Sciences	9
English	9
*MAC 1132 Algebra and Trigonometry	5
**CHM 2045C - 2046C - 2047C General Chemistry and Qualitative Analysis	12
HSC 1001 Introduction to Health Related Professions	2
MLS 2030 Introduction to Medical Technology	2
Electives	6
Physical Education	2
Total	47

SOPHOMORE YEAR

	Credits
The Humanities	12
Behavioral Studies	3 or 4
BSC 2010C - 2011C - 2012C Introductory Biology	12
CHM 3200 - 3200L Organic Chemistry	6
CHM 3120C Analytical Chemistry I with Lab	6
STA 3023 Introduction to Statistics	4
Electives	5 or 6
Total	49

*Students who qualify should take an advanced mathematics course instead of MAC 1132. Consult academic advisor.
**CHM 2040 - 2041C - 2042C - 2043C may be substituted.

JUNIOR YEAR

	Credits
APB 3203 Basic Anatomy & Physiology	4
MLS 3308 Fundamentals of Medical Technology-Hematology	3
MLS 3308L Introduction to Laboratory Procedures 1	1
MLS 3932 Seminar: Essentials of Medical Laboratory Science	2
MLS 3627 Fundamentals of Medical Technology-Clinical Chemistry	3
MLS 3627L Introduction to Laboratory Procedures 2	2
MLS 3550 Fundamentals of Medical Technology-Blood Banking	3
MLS 3550L Introduction to Laboratory Procedures 3	1
MLS 3933 Seminar: Current Topics in Clinical Laboratory Science	1
MCB 3020 Basic Biology of Microorganisms	3
MCB 3020L Basic Biology of Microorganisms Laboratory	2
PCB 4233 Basic Immunology	3
PCB 4233L Experiments in Immunology	2
MCB 4203 Bacterial Pathogens	3
MCB 4203L Experiments with Bacterial Pathogens	2
APB 4544 Human Parasitology	4
APB 4545L Human Parasitology Laboratory for Medical Technologists	1
Electives	8
Total	48

SENIOR YEAR

	Credits
MLS 4830C thru 4833C Clinical Laboratory Practicum 1, 3, 5, 7	20
MLS 4840C thru 4843C Clinical Laboratory Practicum 2, 4, 6, 8	20
MLS 4850 - 4851 - 4852 - 4853 Principles of Clinical Laboratory Methodology 1, 2, 3, 4	8
MLS 4934C - 4935C - 4936C Seminar in Medical Technology 1, 2, 3	3
Total	51

OCCUPATIONAL THERAPY GENERAL STATEMENT

Occupational therapy is an integral part of the comprehensive medical care and rehabilitation of patients with physical and mental illnesses. The occupational therapist uses creative arts, manual skills; recreational, educational and prevocational activities to assist in restoring ill and disabled persons to health. The activities for each patient are selected to meet his specific problems and needs.

A variety of activities are utilized in evaluation and treatment of patients with psychiatric disorders. For example, creative activities may be utilized in the treatment of a mentally ill person in order to stimulate emotional growth and to develop healthy, interpersonal relationships. Since the majority of the activities are manual in nature, occupational therapy for the physically handicapped patients is used mainly to improve functional hand and arm use. The activities selected may improve physical performance by providing specific exercise to improve coordination, to build endurance, or to restore motion and strength. Occupational therapy for children assists in the development of basic motor skills and in the acquisition of the manual and social skills required for school and play.

The occupational therapist also helps the severely disabled person to become independent in activities of daily living by adapting equipment and modifying tasks to meet the needs of the patient. Information related to a patient's potential for employment is obtained through the evaluation of the factors required for successful performance of various tasks relating to work skills and work habits.

Occupational therapists work closely with physicians and other members of the health team as they play important roles in helping those with disabilities and illnesses to function at their greatest potential. Occupational therapists also work in community health agencies, and public schools in direct service to clients, as consultants and supervisors for occupational therapy assistants. There are many interesting and challenging opportunities for placement and for advancement in the profession.

REGISTRATION

To be eligible to work in occupational therapy in Florida a person must be registered under the provision of the Occupational Therapy Practice Act, Florida Statutes 468. State registration for occupational therapists is administered under the auspices of the Florida State Board of Medical Examiners. Examinations for registration under this Act are given semi-annually.

Satisfactory completion of the academic and clinical in-

ternship requirements is the basis for professional membership in the American Occupational Therapy Association and for eligibility to take the examination which qualifies the candidate as a registered occupational therapist (OTR). National registration is the basis for employment in civilian, military, state, and federal hospitals, rehabilitation centers, community clinics and schools for handicapped children throughout the United States and in most foreign countries.

PROFESSIONAL CLUBS AND ORGANIZATIONS

The Student Occupational Therapy Association of the University of Florida is officially recognized as a campus organization. Membership is open to all university students who are interested in occupational therapy. The purpose of SOTA is to stimulate interest in occupational therapy among prospective and currently enrolled students and among related professional community groups.

Students formally enrolled in the professional curriculum are eligible to become student members of the American Occupational Therapy Association and of the Florida Occupational Therapy Association.

CURRICULUM

The Bachelor of Health Science in Occupational Therapy is awarded upon completion of the course requirements in the occupational therapy curriculum. One of the curriculum requirements is the completion of a minimum of six months of clinical internship. Internship includes experience in psychiatric hospitals and approved centers offering experience with various types of physical disabilities and with all age groups.

The curriculum in occupational therapy is approved by the Council on Medical Education of the American Medical Association and by the American Occupational Therapy Association. The sequence of professional courses in occupational therapy begins only in the Fall quarter of each academic year. The Senior year sequence requires enrollment for all four academic quarters.

A Selections Committee determines the students who are to be accepted. Enrollment is based upon the limitations imposed by laboratory and clinical facilities and materials. Admission to the University does not guarantee admission to this curriculum. For specific requirements for undergraduate admission, refer to the section on "Requirements for Admission" to the College.

REQUIREMENTS FOR BACHELOR OF HEALTH SCIENCE IN OCCUPATIONAL THERAPY:

FRESHMAN YEAR

	Credits
Social Sciences	9
The Physical Sciences	7
English	9
Behavioral Studies	6
MFG 1113 Fundamental Mathematics	4
HSC 1001 Introduction to Health Related Professions	2
Physical Education	3
Electives	8
Total	48

SOPHOMORE YEAR

	Credits
HUM The Humanities	12
APB 2150-2151-2152-2150L The Biological Sciences	13
OTH 2000 Introduction to Occupational Therapy	2
PSY 2013 General Psychology	4
PPE 3004 Psychology of Personality	4
Electives	13
Total	48

JUNIOR YEAR

Three Quarters Enrollment Required	Credits
OTH 3010 Introduction to Clinical Procedures	2
OTH 3200 Applied Human Development 1	4
OTH 3201 Applied Human Development 2	4
OTH 3110 Therapeutic Skills	9
OTH 4320 Problems of Psychosocial Dysfunction	4
OTH 4412 Musculoskeletal Anatomy	5
OTH 4421 Problems of Physical Dysfunction	4
OTH 4810-4811 Practicum	4
HSC 4550 Psychiatric Disorders	4
HSC 4540 Kinesiology	3
HSC 4522 The Nervous System	4
APT 4500 General Pathology	4
Total	51

SENIOR YEAR

Four Quarters Enrollment Required	Credits
OTH 4321 Problems of Psychosocial Dysfunction	4
OTH 4422 Problems of Physical Dysfunction	4
OTH 4500 Pediatric Disorders	4
OTH 4813 Practicum	2
OTH 4845 Internship (Spring Quarter)	12
OTH 4846 Internship (Summer Quarter)	12
OTH 4935 Occupational Therapy Seminar	4
HSC 4930 Special Topics or HSC 4905 Individual Study in Health Related Professions	5
HSC 4516 Medical and Surgical Disorders	3
Total	50
Total	197

PHYSICAL THERAPY GENERAL STATEMENT

Physical therapy offers a challenging career for young men and women who are interested in scientific and medical fields and who like to work with people. Graduates have a wide choice of employment opportunities. It is one of a number of services closely allied with comprehensive health care and is an integral part of rehabilitation. It has, as its objective, optimum functional restoration of patients disabled by illness or injury.

Patients are referred for physical therapy by licensed physicians with whom the physical therapist works closely in carrying out evaluative procedures to determine the degree and extent of disability and in planning and administering the therapeutic program. Objectives of physical therapy are to assist in the alleviation of pain and restoration of function in order that the patients may be able to return to work, to school, and to their homes and to again become contributing members of their communities. Illustrative of patients — from new born to aged — referred for physical therapy are those whose disabilities result from fractures, nerve injuries, birth defects, brain damage, cardiac problems, "stroke," and other diseases of bone, joint, circulatory, respiratory and neuromuscular systems.

Physical therapy requires knowledge and background in biological, physical and behavioral sciences such as psychology, gross and applied anatomy, physiology and pathology. It utilizes this knowledge in the application of therapeutic properties of exercise, heat, cold, electricity, ultra sound and massage. The physical therapist works closely with the physician, occupational therapist, nurse, speech and hearing therapist, psychologist, and other members of the health team as they combine their skills and knowledge for the welfare of the patient.

In addition, physical therapists work with medical personnel and community health organizations in contributing to planning programs of patient care and management. They may serve as consultants and advisers, supervise physical therapy and supportive personnel, and participate in educational activities in various settings.

REGISTRATION

To be eligible to work as a physical therapist in Florida a person must be at least 20 years old and registered under the

provisions of The Physical Therapy Practice Act, Florida Statutes 486. State registration for physical therapists is administered under the auspices of the Florida State Board of Medical Examiners. Examinations for registration under this Act are given semi-annually.

PROFESSIONAL CLUBS AND ORGANIZATIONS

The University of Florida Student Physical Therapy Association is officially recognized as a campus organization. It is open to all students registered at the University who are interested in physical therapy. Its purpose is to promote personal and professional growth of its members and greater interest and understanding of physical therapy through participation in the activities of student and graduate professional organizations.

CURRICULUM

The Bachelor of Health Science in Physical Therapy is awarded upon satisfactory completion of the course requirements in the Physical Therapy Curriculum. This curriculum is accredited by the American Physical Therapy Association. This accreditation process is approved by the U.S. Office of Education and the Council of Post-Secondary Accreditation. Courses must be taken in approved sequence. A physical Therapy course in which a grade earned is "U" or below "C" will be considered completed unsatisfactorily and may not be counted towards degree requirements. To continue in the Curriculum students are expected to demonstrate interest, ability, and aptitude for professional responsibilities in Physical Therapy.

As a part of the academic requirements, students are assigned for a 16 week period of field experience in facilities approved by the faculty of the Department of Physical Therapy. No student will be awarded his degree or be qualified to practice physical therapy until he has satisfactorily completed these field experiences.

Satisfactory completion of these requirements is the basis for professional certification as a physical therapist: (1) in states which regulate the practice of Physical Therapy, (2) for membership in the American Physical Therapy Association, (3) for employment in general and specialized hospitals, rehabilitation centers, schools for handicapped children, public health programs, and facilities for the chronically ill, and (4) service as a commissioned officer in the Armed Services.

The sequence of professional courses in Physical Therapy will begin in the Fall quarter of each year.

Enrollment is based upon the limitations imposed by laboratory and clinical facilities and clinical materials. Admission to the University does not guarantee admission to the curriculum. A College admissions committee determines the students who are to be accepted. For the admission requirements refer to the information Requirements for Admission for the College of Health Related Professions.

The deadline for receipt of all credentials in the Department for September enrollment is the preceding March 15.

Students planning to major in Physical Therapy should contact the Department at the earliest possible date. An academic advisement session in the Department, a SCAT test and completion of a college student information form are required of all applicants. Two additional requirements are 1) 2.6 GPA for biological sciences, 2) a personal interview will be required of all applicants who successfully meet all other admission requirements.

All preprofessional courses must be completed by June 30th of the year the student wishes to enter the Curriculum. (Consult section of catalog entitled The Lower Division, Health Related Professions for listing of preprofessional course requirements.)

A limited number of post-baccalaureate students are accepted each year for a special "accelerated" program from which they receive a second baccalaureate degree. Interested students should contact the Chairman of the Department for details.

REQUIREMENTS FOR BACHELOR OF HEALTH SCIENCE IN PHYSICAL THERAPY:

FRESHMAN YEAR

	Credits
Social Sciences	9
ENG English	9
*CHM 2040 Intro. Gen. Chemistry	4
*CHM 2041C-2042C Gen'l Chemistry and Qualitative Analysis	8
*MAC 1132 Algebra and Trigonometry	5
*PSY 2013 General Psychology	4
Physical Education	2
Electives	7
Total	48

SOPHOMORE YEAR

	Credits
HUM The Humanities	12
BES Behavioral Studies	6
*BSC 2010C Organismic Biology	4
*BSC 2011C Molecules and Cells	4
*ZOO 3703 Functional Vertebrate Anatomy	5
*PPE 3004 Psychology of Personality	4
*PHY 2002C-2003C Applied Physics	10
Electives	3
Total	48

*Prerequisite courses.

JUNIOR YEAR

	Credits
PHT 3001 Intro. to PT & Community Health Concepts	3
PHT 3213C-3214C Clinical Sciences I and II	9
PHT 3100C-3101C Human Anatomy and Kinesiology I, II	6
PHT 3803 PT in Community Facilities	1
APB 3203 & HSC 3520L Basic Anatomy and Physiology	5
HSC 4522 The Nervous System	4
PHT 3215C Physical Modalities	5
HSC 4516 Medical and Surgical Disorders I	4
PHT 3812** and 3813 Practicum in Community Facilities	2
HSC 4905 Individual Work: Neurophysiology	2
PHT 3142C Reflex Assessment and Motor Development	2
Electives	2
Total	47

**May be taken as an elective.

SENIOR YEAR

	Credits
PHT 3500 Community Health Services	3
PHT 4111L Anatomy Dissection	4
HSC 4517-4518 Medical and Surgical Disorders II and III	8
PHT 4234C-4232C Therapeutic Procedures I, II	8
PHT 4822-4823 Clinical Practicum	6
PHT 4245 Therapeutic Procedures III	3
PHT 4930 Senior Seminar	5
PHT 4824 Internship	18
HSC 4905 Individual Study: Scientific Inquiry	2
HSC 4930 Special Topics: Research Proposal	1
Total	58

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College of Journalism And Communications

ADVERTISING
BROADCASTING
COMMUNICATION
JOURNALISM
MAGAZINES
PUBLIC RELATIONS
TECHNICAL COMMUNICATIONS
PUBLIC RELATIONS IN CRIMINAL JUSTICE

College of Journalism and Communications

The College of Journalism and Communications provides accredited programs in Advertising, Journalism (News-Editorial), Public Relations, and Radio-Television. It offers curricula leading to bachelor's degrees in three areas: Advertising, Broadcasting, and Journalism. A Public Relations sequence leads to a degree of Bachelor of Science in Journalism. The College also offers programs leading to the master's degree.

The divisions of the College are as follows: Department of Advertising and Public Relations, Department of Broadcasting, Department of Journalism, Graduate Division and Communication Research Center. Sequences are offered in advertising; broadcast news and public affairs, broadcast production and broadcast management under Broadcasting; reporting, editing, journalism education, magazines and photojournalism under Journalism; magazines; public relations; technical communications; and public relations in criminal justice under Public Relations. Programs are available in agricultural journalism, environmental studies, Latin American studies, journalism for teachers and television for teachers.

Students gain practical experience working at the University's radio and television stations, on the college's alumni newspaper, on student publications, on the local daily newspaper, The Gainesville Sun, and/or dozens of internship programs.

Persons specializing in Reporting, Editing, Photojournalism, Journalism Education, Magazines, Public Relations, Public Relations in Criminal Justice, and Technical Communications will take the appropriate sequence in the Bachelor of Science in Journalism program.

Students interested in radio and television will register for the program leading to the degree of Bachelor of Science in Broadcasting. Those wishing Advertising will take the program leading to the degree of Bachelor of Science in Advertising; work in this program includes both the print and electronic media.

SPECIAL PROGRAMS

AGRICULTURAL JOURNALISM: A special program leading to a Bachelor of Science Degree with emphasis on agricultural journalism is available. Interested students should consult with the Technical Communications Adviser and with the Dean of the College of Agriculture. Agriculture students seeking a single course in handling agriculture publicity and news for newspapers, magazines and radio-television are advised to register for Agricultural Communications, AGG 4603.

JOURNALISM FOR TEACHERS: Special training and supervised research are available for journalism teachers and others interested in work at the high school level. Students seeking state certification in Journalism should consult with the Department of Journalism.

TELEVISION FOR TEACHERS: The College offers instruction in the use of television production techniques and their utilization in informational and educational programs. Teachers interested in this program should consult with the Department of Broadcasting.

LATIN AMERICAN STUDIES: Students with a special interest may work for a certificate in Latin American studies. These students should consult with the assistant director of the Center for Latin American Studies; additional information about the program is given in the section titled "Center for Latin American Studies."

ENVIRONMENTAL STUDIES: Students interested in reporting, writing, editing or public relations work with any governmental or private organization dealing with the environment or environmental problems are advised to use their minor requirement to develop an area minor (20 or more quarter-hour credits) in environmental studies courses, such courses to be selected from an approved list available from any College adviser.

GRADUATE DEGREE

The College of Journalism and Communications, through the Graduate School, offers a program leading to the degree Master of Arts in Journalism and Communications with a major in communication. Graduate work is offered with specialization in advertising, communication research, international communication, journalism, media management or public relations. Consult the Graduate School catalog.

COMMUNICATION RESEARCH CENTER

For information about research activities and services of the College, please write the Director, Communication Research Center, College of Journalism and Communications, Gainesville, Fl. 32611.

REQUIREMENTS FOR ADMISSION

The University of Florida and the College of Journalism and Communications encourage applications from qualified students from all cultural, racial, religious, and ethnic groups. Listed below are the specific requirements for admission to this college. It should be understood, however, that minimum requirements are given and that admission to this college is a selective process. The satisfaction of minimum requirements does not automatically guarantee admission. A student's total record including educational objectives, pattern of courses previously completed, quality of previous academic record, and test data will all be considered in evaluating an application for admission. Priority in admission will be given to those applicants whose potential on the basis of their total record indicates the greatest likelihood of success in the program requested.

Lower Division students: To be eligible for admission to the College of Journalism and Communications, a lower division student must have accomplished one of the following:

A. Earned 96 quarter hours of acceptable college credit with an overall average of C+ (2.5) or higher on all college level work attempted, or

B. Completed all general education courses required for the desired curriculum as shown in the program for the Freshman and Sophomore years outlined in this catalog, with an overall average of C+ (2.5) or higher on all work attempted.

C. Received the recommendation of the chairman of the department which the student plans to enter and the approval of the dean's office.

Transfer students: To be eligible for admission to the College of Journalism and Communications, a transfer student must satisfy the minimum requirements for admission to an Upper Division College that are set forth in the ADMISSIONS section of this catalog.

Transfer students are advised to note carefully the section headed "Professional Limit," below.

All Students: All students, whether from Lower Division, Florida community or junior colleges, or other four-year institutions, are required to complete, before graduation from the University of Florida, all courses listed under the "Lower Division" curriculum section, including preprofessional courses, or approved equivalents of these courses.

Provisional Admission: Within space limitations, students who do not meet precisely the admission requirements indicated in the appropriate section above may be granted provisional admission to the College of Journalism and Communications by the College's Committee on Admissions. The Dean of the College of Journalism and Com-

munications will specify the courses to be completed and minimum grade points to be earned by the student during the term of his or her provisional admission. Provisional status will be removed and the student fully admitted to the College of Journalism and Communications provided he or she fulfills the conditions set forth in his or her provisional admission. The student will be excluded from further enrollment in the College of Journalism and Communications if he or she fails to satisfy the conditions of his or her provisional admission.

TYPING ABILITY

All students entering the College must be able to typewrite. This ability is needed because many laboratory assignments must be typewritten. Students are expected to type 20 words per minute for MMC 2100; 30 words per minute for selected advanced courses.

ACADEMIC ADVISEMENT

The College maintains an advising service for students throughout the school year. Advisers in each department will talk with students about any academic matter. Each student, upon admission to the College, is assigned to an adviser for the remainder of his stay in the College. Students may change advisers, if they wish, by consulting the chairman of their department.

The most important fact a student can remember about academic advising is that he or she alone is responsible for earning his or her degree. While the College maintains its academic advisory service, and carefully works to keep accurate records of individual students, the student himself or herself is responsible for meeting all degree requirements.

Therefore, a careful reading of these requirements is advised, and each student is urged to visit his or her adviser at least once each quarter for help in checking on his or her progress.

Students are required to obtain an adviser's approval on all registration and/or drop-add cards in this college. Each student is advised to strictly observe the University's regulation on maximum and minimum course loads each quarter. This college requires each student to carry a minimum of 12 quarter hours, unless a waiver is approved by the student's department chairman.

MINOR

A portion of the student's elective credit hours in any sequence offered by the College must be chosen from outside the College.

Minor in Advertising and Public Relations

The Department of Advertising and Public Relations requires that the student and his adviser select these outside credit hours in one of two ways: (1) Single minor—20 hours, including 15 hours at the 3000 level or above (except that 1000 or 2000 level courses will be counted where they are prerequisites to upper level courses); (2) Split minor—22 credit hours from two departments, one of at least 12 credits and one of at least 10 credits, including 15 hours at the 3000 level or above.

Minor in Broadcasting

The minor in the Department of Broadcasting may be elected as, (1) a 20-hour concentration in one academic field, or (2) an area study recommended by the department to meet specific career goals. In either option, 15 of the 20 hours must be at the 3000 level or above.

Minor in Journalism

The minor in the Department of Journalism totals 20 hours, of which 15 must be in courses of 3000 level or above. The student must choose and develop one of two options which closest meet career ambitions, with written approval by the student's official adviser of the list of courses. Options are:

1. Secure all the credits in one other department outside the College or
2. Complete an Area Study, which is more flexible but permits a greater concentration of subject matter. Area studies available are Western Thought, Governmental Affairs, Urban Social Problems, Communication Sciences, Business, and Environment. Others can be arranged under advisement.

SATISFACTORY-UNSATISFACTORY

Undergraduate students in the College of Journalism and Communications may take no courses designated ADV, COM, FIL, JOU, MMC, PUR or RTV under the satisfactory-unsatisfactory (S-U) grade option, except courses which are offered only as S-U.

Students are encouraged to take elective courses S-U outside the College, subject to University rules published in the "Student Regulations" section of this catalog.

While no required course may be taken under the S-U option, courses for minor credit may be taken with the following restrictions (in addition to University restrictions):

1. The option may not be applied to any course below the 3000 level.
2. Not more than five credits of S-U work may be offered in fulfillment of the minor requirement.
3. No basic course (for example, SOC 2000, MAN 3010) may be offered for minor credit under S-U.

PROBATION

The College rules regarding probation are the same as the University's. These rules are described in the "Student Regulations" section of this catalog.

HONORS AND HIGH HONORS

Students achieving an overall grade point average of 3.50 on all work attempted while students in the College of Journalism and Communications will be graduated with honors.

The College Honors Committee will consider awarding high honors to students showing evidence of superior scholarship (at least 3.60 on all work attempted while students in the College of Journalism and Communications) and professional competency. Evidence of scholastic superiority should be supported by at least two letters from former or current instructors.

Evidence of professional competency will be in forms unique to each major area, viz., internships, editorships, journalistic writing, advertising and public relations campaigns, film, television or radio productions, etc.

Students who believe their final grade point average will be at least 3.60 may apply to be considered for high honors at graduation. For specific information, students should confer with their departmental honors adviser. Judgment of evidence submitted will be made by the College Honors Committee in consultation with other pertinent faculty.

REQUIREMENTS FOR DEGREE

To earn a bachelor's degree, a student must:

1. Complete, with passing grades, all courses required by the college faculty and approved by the University.
2. Earn at least 192 credits, part of which may be accepted by transfer from another college or university. The last 45 of these credits must be earned while the student is enrolled in the College of Journalism and Communications and is enrolled in classes at the University of Florida.
3. Earn at least an average of C (2.0) in all work attempted

while a student in the College of Journalism and Communications, and at least an average of C in all work attempted in courses having the prefixes ADV, COM, FIL, JOU, MMC, PUR and RTV.

4. Earn a C or better in required English, required speech, Writing for Mass Communication, (or its equivalent), and Introduction to Broadcasting (or its equivalent), when required. Students earning below a C in any of these courses will be required to retake the course or its equivalent.

SECOND DEGREE

Students wishing to specialize in more than one field may earn a second bachelor's degree in this College by completing an additional 45 credits of work, with the necessary qualitative and residence requirements.

PROFESSIONAL LIMIT

The College stresses a broad background in liberal arts and sciences. The student spends about three fourths of his or her time on general background courses. The remaining one fourth involves the development of professional techniques in relation to this background knowledge.

Because the College insists on this broad background of general education, the number of professional credits to be applied toward graduation is limited. The College permits 55 professional credits (ADV, COM, FIL, JOU, MMC, PUR and RTV) to be applied toward graduation. Professional courses as defined by the College and accepted by transfer are counted toward the 55. A student must earn a minimum of 137 quarter hours of non-college of journalism courses as a part of the 192 hours required.

FINANCIAL AID

Students may earn money through undergraduate and graduate assistantships in this College. Undergraduate students may inquire at the office of development; graduate students may inquire at the office of the Graduate Division of this College.

A number of scholarships are available. Information may be obtained from the chairman of the Scholarship Committee of this College.

PROFESSIONAL AND HONORARY ORGANIZATIONS

Five national professional and honorary organizations select members from undergraduates in the College of Journalism and Communications: Society of Professional Journalists, Sigma Delta Chi; Alpha Delta Sigma, students in advertising; and Kappa Tau Alpha, scholastic honorary for students; the Public Relations Student Society of America sponsored by, and regulated by, the Public Relations Society of America; and Alpha Epsilon Rho, students in broadcasting.

The College is represented in these professional groups: American Association of Schools and Departments of Journalism, National Association of Educational Broadcasters, Broadcast Education Association, Florida Association of Broadcasters, Television Bureau of Advertising, Advertising Research Foundation, Fourth District of the American Advertising Federation, Gainesville Advertising Federation, Television Information Office, Florida Scholastic Press Association, International Association of Business Communicators, Public Relations Society of America, and Florida Magazine Association.

The state headquarters of the Florida Scholastic Press Association is located in the College of Journalism and Communications. The executive secretary of the association is a member of the faculty. A Summer institute for high school journalists is conducted in cooperation with the Division of Continuing Education.

NATIONAL STANDING OF COLLEGE

The College of Journalism and Communications at the University of Florida is the only such college in Florida with four complete programs accredited by the American Council on Education for Journalism. The curricula, faculty, facilities and alumni achievements are evaluated regularly by the ACEJ, whose membership includes the American Society of Newspaper Editors, the American Newspaper Publishers Association, the National Editorial Association, the Inland Press Association, National Association of Broadcasters, journalism educators, and Public Relations Society of America.

LOWER DIVISION CURRICULUM

Listed below are general requirements for all students seeking a degree from the College of Journalism and Communications. It is expected that students will complete, in their first two years, nearly all of the general education requirements and a considerable part of the Basic Distribution and Preprofessional Requirements. The remainder will be completed as early as possible upon admission to the College. A suggested course sequence is provided for the first two years in the lower division section of this catalog. This program can be altered to fit the student's circumstances but students are urged not to delay their foreign language or their quantitative option.

A student must have completed the General Education requirements and have a 2.5 average (C+) to be considered for admission to the College.

For course options other than those listed, consult "Authorized Courses for General Education," located in an early section of this catalog.

General Education Requirements

Courses	*Minimum credits*
*English (Must include at least two courses in composition and/or writing)	9
Mathematics	4
Social Sciences	9
Behavioral Studies	4
The Humanities	12
**Physical Sciences	6-9
**Biological Sciences	6-9

Basic Distribution Requirements

*English	4
Social Sciences	
1. ECO 2000, ECO 2013, ECO 2023, or ECP 3302 (Economics)	4
2. AMH 2010 and AMH 2020 (American History)	10
3. POS 2041 and POS 2112 (Political Science)	7
4. Additional social science electives	6

Preprofessional Requirements

*MMC 2100 Writing for Mass Communication (Student must have a typing proficiency of at least 20 words per minute; student may be exempted from and earn credit for course by passing a proficiency exam in writing given by the College of Journalism)	4
*SPC 3601 Public Speaking (Possible substitute courses if SPC 3601 is not available: SPC 3420; SPC 3513; ORI 2001; ORI 2002; or TPP 2700	4
One Foreign Language	15
or	
Quantitative Option (Take any combination of the following courses: ACC 2001, ACC 2301, ACC 2401, STA 3013, or STA 3023, STA 3024, STA 4222 COP 3110, COP 3111, COP 3120	10

For students who elect the foreign language option, the requirement may be met by satisfactory completion of a sequence of three (3) five-hour courses including course work at the intermediate level (through 1112 or 1122). Students who plan to continue the study of a language which they

began at another institution must take a placement test before registering. If proficiency through the 1112 or 1122 level is determined by examination, this will constitute completion of the foreign language requirement. However, no credit is earned. Consult the appropriate language departmental office for specific examination schedules. Transfer students having fewer than 15 hours of one foreign language may complete the requirement beginning at the point determined by a proficiency test. The student is advised to take the language proficiency examination as early as possible after admission lest a basic course have to be repeated with the result that the student loses credit for prior coursework. The language courses may be taken by the satisfactory-unsatisfactory grading option. Intensive summer study in French and Spanish is available for students who have earned no previous foreign language credit in college.

*Only grades of C or higher are acceptable. Two English composition courses must be included.

**Three quarter hours of credit of either of these areas may be omitted.

ADVERTISING CURRICULUM

Leading to the Degree of Bachelor of Science in Advertising

Block 1: Required courses

These courses must be completed by all students:

	Credits
ADV 3000 Elements of Advertising	4
ADV 4101 Copywriting and Visualization	4
ADV 4103 Radio TV Advertising	4
ADV 4501 Advertising Research Techniques	4
ADV 4800 Advertising Campaigns	4
MAR 3023 Principles of Marketing	4
MMC 4200 Law of Mass Communication	4

Block 2: Professional Electives Minimum of three courses required (11 hours)

ADV 4102 Advanced Copywriting	4
ADV 4200 Advertising Graphics and Production	4
ADV 4300 Media Planning Strategy	4
ADV 4400 International Advertising	4
ADV 4600 Advertising Agency Management	4
ADV 4700 Retail Advertising	4
ADV 4905 Individual Problems	1 to 5
ADV 4930 Special Study in Advertising	4
ADV 4940 Advertising Internship	1 to 5
PUR 3000 Introduction to Public Relations	4
PUR 4103 Business and Technical Communication	5
RTV 3210 Broadcast Production 1	3

Block 3: Professional Electives

Minimum of one course required (4 hours)

ADV 4500 Public Opinion Theory and Advertising	4
ADV 4931 Seminar: Ethics and Problems in Advertising	4
RTV 3403 Mass Media Processes and Effects	4

Any professional work beyond 55 credit hours must be added to the 192 hours required for graduation, unless a student has earned 137 credit hours of non-College of Journalism work.

BROADCASTING CURRICULUM

Leading to the Degree of Bachelor of Science in Broadcasting.

LOWER DIVISION

Courses required in addition to Lower Division and preprofessional courses required of all students:

	Credits
SOC 2000 Principles of Sociology	4
or	
PSY 2013 General Psychology	4
RTV 2000 Introduction to Broadcasting	3

UPPER DIVISION

These courses must be completed by all students.

	Credits
RTV 3100 Broadcast Writing	4
RTV 3210 Broadcast Production 1	3
RTV 3300 Broadcast News Writing	4
RTV 3403 Mass Media Processes and Effects	4
RTV 4931 Seminar: Ethics and Problems in Broadcasting	4
MMC 4200 Law of Mass Communication	4
Total	30

The student will choose one of the following areas:

Broadcast News and Public Affairs

	Credits
FIL 4202 Cinematography for TV	4
RTV 3301 Advanced Broadcast News	4
RTV 4302 Radio-TV Reporting	4
JOU 3110 Fact Finding	3
Total	15

Broadcast Production

	Credits
RTV 3220 Broadcast Production 2	3
RTV 3221 Advanced Television Production	3
FIL 4202 Cinematography for TV or an elective course in broadcast production	4
RTV 4500 Broadcast Program Management	4
Total	14

Broadcast Management

	Credits
ADV 3000 Elements of Advertising	4
ADV 4300 Media Planning Strategy	4
RTV 4500 Broadcast Program Management	4
Broadcast electives under faculty advisement and approval	4
Total	16

In addition to the above requirements, students must take one course in the fine arts, such as ENG 3132, PHI 3800, REL 3116, MUL 2011, or THE 2000, and one course in any of the following areas: Education, Statistics, Sociology, Psychology, Marketing, Management, or Meteorology. Specific choices must be approved by a Broadcasting adviser.

Any professional work beyond 55 hours must be added to the 192 hours required for graduation, unless a student has earned 137 credit hours of non-College of Journalism work.

JOURNALISM CURRICULUM

Leading to the Degree of Bachelor of Science in Journalism

UPPER DIVISION

Required of all students:

	Credits
JOU 3110 Fact Finding	3
**JOU 3100 Reporting I	4
**JOU 3101 Reporting II	4
*JOU 3601 Journalistic Photography I	4
JOU 4104 Public Affairs Reporting	4
JOU 4200 Newspaper Editing I	4
JOU 4700 Problems and Ethics of Journalism in Society	4
JOU 4946 Applied Journalism	5
MMC 4200 Law of Mass Communication	4
*Editing sequence students may substitute JOU 3204 Graphics of Journalism	3
Total	35-36*

SPECIALIZATIONS

Student will select one area:

Reporting

Required:	Credits
JOU 4302 Public Opinion and Editorial Analysis	4

COLLEGE OF JOURNALISM AND COMMUNICATIONS

Block 1: Choose One
JOU 4004 History of Journalism 4
ADV 3000 Elements of Advertising 4
ADV 4500 Public Opinion Theory and Advertising 4
MMC 4301 World Communication Systems 4
MMC 4420 Applied Research in Mass Communications ... 3
PUR 3000 Introduction to Public Relations 4

Block 2: Choose One
JOU 4300 Magazine and Feature Writing 4
JOU 4301 Specialized Journalism 4
JOU 6112 Investigative Reporting 4
JOU 6113 Urban Affairs Reporting 4

Reporting Total 46-48*

Editing

Block 1: Required *Credits*
JOU 4202 Newspaper Editing II 4
PUR 4103 Business and Technical Communication 5

Block 2: Choose One
ADV 4500 Public Opinion Theory and Advertising 4
JOU 4004 History of Journalism 4
JOU 4300 Magazine and Feature Writing 4
JOU 4302 Public Opinion and Editorial Analysis 4
MMC 4301 World Communication Systems 4
MMC 4420 Applied Research in Mass Communications ... 3

Editing Total 47-49*

Photojournalism

Required: *Credits*
JOU 4602 Journalistic Photography II 5

Block 1: Choose One
ADV 3000 Elements of Advertising 4
ADV 4500 Public Opinion Theory and Advertising 4
JOU 4004 History of Journalism 4
JOU 4302 Public Opinion and Editorial Analysis 4
MMC 4301 World Communication Systems 4
MMC 4420 Applied Research in Mass Communications ... 3
PUR 3000 Introduction to Public Relations 4

Block 2: Choose One
JOU 4300 Magazine and Feature Writing 4
JOU 4301 Specialized Journalism 4
JOU 6112 Investigative Reporting 4
JOU 6113 Urban Affairs Reporting 4
PUR 4103 Business and Technical Communication 5

Photojournalism Total 47-49*

*Not including 4 credits in MMC 2100.
**Only grades of C or higher are acceptable.

Many students elect to earn credits by serving internships. Students who plan to seek internship credit are urged to use their elective hours within the college for that purpose. Students are limited to 10 quarter hours of internship and/or co-op work experience credit.

Journalism Education

Students take core courses, an area in methods of teaching journalism, 40 hours of education and a minor in English or speech. Students seeking state certification in journalism should consult with the Department of Journalism.

Any professional work beyond 55 hours must be added to the 192 hours required for graduation, unless a student has earned 137 credit hours of non-College of Journalism work.

MAGAZINES CURRICULUM

Leading to the Degree of Bachelor of Science in Journalism.

PROFESSIONAL COURSES REQUIRED OF ALL MAGAZINES MAJORS *Credits*
JOU 3100 Reporting I 4
JOU 4300 Magazine and Feature Writing 4
JOU 3601 Journalistic Photography 4
PUR 3101 Editing and Graphics 4
or
JOU 4200 Newspaper Editing I 4
PUR 4103 Business and Technical Communication 5
PUR 4104 Seminar in Magazine Editing 4
MMC 4200 Law of Mass Communication 4

Total 29

PROFESSIONAL ELECTIVES

Minimum of five courses and 18 hours required; one course each from areas 1 and 2; three from area 3)

Area 1
ADV 4500 Public Opinion Theory and Advertising 4
JOU 4302 Public Opinion and Editorial Analysis 4
JOU 4700 Problems/Ethics of Journalism in Society 4
PUR 4933 Seminar: Ethics and Problems in Public Relations 4

Area 2
ADV 3000 Elements of Advertising 4
RTV 3403 Mass Media Processes and Effects 4
JOU 4004 History of Journalism 4
PUR 3000 Introduction to Public Relations 4

Area 3
ADV 4101 Copywriting and Visualization 4
ADV 4300 Media Planning Strategy 4
JOU 6112 Investigative Reporting 4
JOU 3110 Fact Finding 3
JOU 3101 Reporting II 4
JOU 4104 Public Affairs Reporting 4
JOU 4301 Specialized Journalism 4
JOU 4602 Journalistic Photography II 5
PUR 4001 Advanced Public Relations 4
JOU 4946 Applied Journalism 5
JOU 4311 Advanced Feature Writing Seminar 4
PUR 4940 Public Relations Internship ..... 1 to 5
JOU 4940 Journalism Internship ..... 1 to 5

PUBLIC RELATIONS CURRICULUM

Leading to the Degree of Bachelor of Science in Journalism.

PROFESSIONAL COURSES REQUIRED OF ALL PR MAJORS

Credits
JOU 3100 Reporting I 4
PUR 3101 Editing and Graphics 4
ADV 4500 Public Opinion Theory and Advertising 4
or
JOU 4302 Public Opinion and Editorial Analysis 4
MMC 4200 Law of Mass Communication 4
JOU 4300 Magazine and Feature Writing 4
PUR 3000 Introduction to Public Relations 4
PUR 4001 Advanced Public Relations 4
PUR 4103 Business and Technical Communication 5

Total 33

PROFESSIONAL ELECTIVES

Take one course in each area below. Minimum total must be 10 hours.

Area 1
MMC 1000 Survey of Communications 3
RTV 2000 Introduction to Broadcasting 3
ADV 3000 Elements of Advertising 4

Area 2
PUR 4933 Seminar: Ethics and Problems in Public Relations 4
PUR 4932 Special Study in Public Relations 4
PUR 4930 Individual Problems ..... 1 to 5
PUR 4940 Public Relations Internship ..... 1 to 5

Area 3

Other 3000 or 4000-level professional course approved by adviser ..... 3 to 5

Any professional work beyond 55 hours must be added to the 192 hours required for graduation, unless a student has earned 137 credit hours of non-College of Journalism work.

TECHNICAL COMMUNICATIONS CURRICULUM

Leading to the Degree of Bachelor of Science in Journalism.

This Curriculum is designed to provide specialists in communications for various technical fields. To fulfill the requirements for this degree, the student must take a core of journalism and other courses, as specified below, and select with the adviser at least 32 quarter hours of courses outside of the College of Journalism and Communications in a field of the specialization. The field of specialization is limited to technical areas. The area of specialization must be approved by a journalism adviser and the specialized courses worked out in conjunction with an adviser in the area of specialization. A total of 96 quarter hours in the Upper Division is required for the degree.

Courses	*Credits*
JOU 3100 Reporting I	4
PUR 3101 Editing and Graphics	4
JOU 3601 Journalistic Photography I	4
ENC 4356 Report Writing	4
ADV 4500 Public Opinion Theory and Advertising	4
MMC 4200 Law of Mass Communication	4
JOU 4300 Magazine and Feature Writing	4
PUR 3000 Introduction to Public Relations	4
PUR 4103 Business and Technical Communication	5
*Field of Technical Specialization	32
Electives	24
Total	96

*Fulfills minor requirement. Any professional work beyond 55 hours must be added to the 192 hours required for graduation, unless a student has earned 137 credit hours of non-College of Journalism work.

PUBLIC RELATIONS IN CRIMINAL JUSTICE CURRICULUM

Leading to the Degree of Bachelor of Science in Journalism.

Professional Courses Required of ALL PRCJ Students

	Credits
JOU 3100 Reporting 1	4
ADV 4500 Public Opinion Theory and Advertising	4
MMC 4200 Law of Mass Communication	4
PUR 3000 Introduction to Public Relations	4
PUR 4001 Advanced Public Relations	4

(Student will elect to complete a Broadcast or Print emphasis.)

Professional Courses Required for Students Who Desire a **Broadcast** Emphasis

	Credits
RTV 2000 Introduction to Broadcasting	3
RTV 3210 Broadcast Production 1	3
RTV 3220 Broadcast Production 2	3
RTV 3221 Advanced Television Production	3

Professional Courses Required for Students Who Desire **Print** Emphasis

	Credits
PUR 3101 Editing and Graphics	4
JOU 4300 Magazine and Feature Writing	4
PUR 4103 Business and Technical Communication	5

PROFESSIONAL ELECTIVES FOR PRCJ MAJORS

Take one course in each area below. Minimum total must be 10 hours.

Area 1

MMC 1000 Survey of Communications 3
RTV 2000 Introduction to Broadcasting 3
ADV 3000 Elements of Advertising 4

Area 2

PUR 4933 Seminar: Ethics and Problems in Public Relations 4
PUR 4932 Special Study in Public Relations 4
PUR 4930 Individual Problems ..... 1 to 5
PUR 4940 Public Relations Internship ..... 1 to 5

Area 3

Other 3000 or 4000-level professional course approved by adviser ..... 3 to 5

Any professional work beyond 55 hours must be added to the 192 hours required for graduation, unless a student has earned 137 credit hours of non-College of Journalism work.

CRIMINAL JUSTICE MINOR

All students must complete a minimum of 20 quarter hours in an approved Criminal Justice sequence, either at the lower division or upper division level.

Center for Latin American Studies

The Center for Latin American Studies is the University unit responsible for directing and coordinating inter-disciplinary instructional and research programs related to Latin America. It is a budgeted unit within the University and is administered by a director immediately responsible to the President reporting through the Vice President for Academic Affairs.

UNDERGRADUATE PROGRAM IN LATIN AMERICAN STUDIES

For students interested in Latin American Studies, the College of Liberal Arts and Sciences, the College of Agriculture, the College of Journalism and Communications, the College of Business Administration, and the College of Education offer a special curriculum leading to the B.A. or B.S. degree and a Certificate in Latin American Studies. The program is designed to provide a broad cultural base for students who plan to do graduate work in the field or who plan careers with Latin American connections in business, government, or teaching. This course of study is particularly helpful to students interested in teaching about Latin America, in business dealing with Latin America, or positions with the U.S. Government in such agencies as the Department of State, the United States Information Agency, the Department of Commerce, the Department of Labor, and the Defense Department.

The Certificate Program is based on a departmental major leading to the Degree of Bachelor of Arts. In the College of Liberal Arts and Sciences, this major may be selected from the following fields: Anthropology, Economics, Geography, History, Political Science, Sociology and Spanish. Through special arrangements with the College of Agriculture, the College of Journalism and Communications, the College of Education and the College of Business Administration, undergraduates in the departments of those colleges may take sufficient courses in Arts and Sciences to qualify for a B.S. Certificate in Latin American Studies. In all Colleges, the student must fulfill College and Departmental requirements for the B.A. or B.S. degree. In addition, these special requirements exist: (1) The student must include 36 hours of courses with Latin American emphasis. Courses taken within the major may be counted in fulfillment of these requirements, but language courses below the 2000 level may not be counted. (2) In addition to courses in the major, the student must take at least three courses outside of the major as part of the 36 hours. One course must be taken in the social sciences and history; one in literature, music, art, and the humanities; and one in either of these two course groups or in languages and linguistics or from among a group of professional courses. (3) Each certificate candidate must take the Center's undergraduate interdisciplinary seminar. (4) The student must demonstrate reading and speaking knowledge of Spanish or Portuguese. This last requirement may be satisfied either through course work or examination. The Certificate Program provides for a special concentration in Brazilian Area and Portuguese Language Studies.

All students completing the requirements of the special curriculum in Latin American Area Studies will receive a Certificate. Arrangements may be made so that students undertaking this curriculum, may, if desired, spend one or two terms taking classes at a Latin American University. (See Study in Latin America below.)

Students preferring to major directly in Latin American Studies at the B.A. level may apply to do so under the individual interdisciplinary option available through the College of Liberal Arts and Sciences.

Undergraduates interested in either of these programs should consult with the Program Adviser, Room 319, Center for Latin American Studies, Grinter Hall, and with their departmental academic advisers. Those interested in the individual option of a B.A. major must also consult with the undergraduate office of the College of Liberal Arts and Sciences.

STUDY IN LATIN AMERICA

Agreement between the State University System of Florida and the Universidad de los Andes in Bogota, Colombia, allows students to study abroad for up to one year. The program is administered by the Center for Latin American Studies of the University of Florida.

While enrolled at the Colombian university, students are housed in private Colombian homes. They immerse themselves in the Spanish language and in the day-to-day living experience of Colombian culture. The Universidad de los Andes is organized similar to U.S. universities, and credits are transferrable. Total cost for the program amounts to about the same as would be paid by a student in residence at any university of the State University System of Florida. Interested students should contact the Office of International Studies and Programs, 168 Grinter Hall.

The principal features of the program are:

Length of Program: Interested students may attend an *Intensive Course in Spanish For Foreign Students* from mid June to late July. In addition, they may take two regular semesters in residence, August to December and January through May.

Courses: All credits earned at Universidad de los Andes are transferrable to the Florida institution on the basis of prior approval of student's U.S. adviser or Registrar. Liberal Arts and Sciences majors must have prior approval of the Dean of the College.

Faculty: The greater part of the faculty of Universidad de los Andes have received graduate degrees or training in the United States or other foreign countries.

General Educational Requirements: Applicants should have completed at least 48 quarter hours of college or university work.

Academic Prerequisites: An academic average of 2.5 or better on all work completed at U.S. institutions, over a period of four quarters.

Language Prerequisites: A minimum of four quarters of college level Spanish, completed before departure, or a certificate stating that student has completed a functional Spanish language test, or permission of program director.

Tuition: Approximately $300 US for the Summer Intensive Language course and $400 US for each semester.

Housing: While in residence at Universidad de los Andes, U.S. students may be housed in approved private Colombian homes. Cost will be approximately $200 US per month for room, meals and laundry.

Travel Costs: Round trip Miami-Bogota, valid for one year $378. Cheaper group travel rates are available for Summer Spanish course. APPLICATION DEADLINES, *Two months* prior to departure.

The Center initiated a Portuguese Summer program at Santos, Brazil, in 1978. The features of this program are identical to those of the one in Colombia. The costs are proportionately higher.

OTHER ACTIVITIES

In addition to the Bogota and Santos programs, the Center sponsors bi-weekly colloquia, a yearly conference, a major monograph and publications series, a Newsletter, and occasional art exhibits and concerts.

College of Law

THE COLLEGE OF LAW, founded in 1909, began its work in the Thomas Hall Dormitory for men. The Law Building, built in 1914, was one of the first permanent units on the campus. The College was accredited by the New York State Board of Regents in 1917, admitted to membership in the Association of American Law Schools in 1920, and recognized as an approved school by the American Bar Association in 192S.

In January of 1969, the College occupied its new academic building. The academic building, in addition to classroom, courtroom, and administrative space, contains a library housing over 300,000 volumes and over 1,000 legal periodicals.

The curriculum of the College is arranged so that the courses prescribed for the first year assure a sound foundation for further study. A structuring of the second and third years assures that the student will be exposed to a broad course of study.

The goal of the College is to impart a thorough, scientific and practical knowledge of the law, together with an understanding of its role in a democratic society. It aims to develop keen, efficient lawyers who will respect the ideals and traditions of the profession. The policy of the College places emphasis upon practical skills as well as legal theory; problems of the modern world as well as historical perspective; the creative aspects in the drafting of documents as well as in the body of legal doctrines.

The College of Law offers a program leading to the degree of Juris Doctor. Admission is limited to those with a baccalaureate degree from a qualified institution who have achieved a satisfactory undergraduate grade point average and score on the Law School Admission Test (LSAT). All applicants must register with the Law School Data Assembly Service (LSDAS). Both the LSAT and LSDAS are administered by the Law School Admission Services (LSAS) in Newtown, P.A. One can obtain the Law School Admission Bulletin with LSAT/LSDAS application from the Admissions Office of the University or the College of Law Administration Office.

The College of Law in conjunction with the Graduate School offers concurrent programs leading to the J.D./M.B.A., J.D./Master of Arts in Regional and Urban Planning, and J.D./Master of Arts in Political Science-Public Administration.

The College also offers a course of instruction leading to the degree of Master of Laws in Taxation. Admission to the Masters program is limited to applicants who have attained the first degree in law from a school accredited by the Association of American Law Schools or the American Bar Association, and applicants are selected for admission on the basis of a demonstrated potential for successful completion of the program. In general, the LL.M. degree is earned by full-time study over the course of an academic year.

For further information on admission requirements, courses and programs, write Admissions, 164-d Holland Law Center, Gainesville, FL 32611.

LAW CENTER ASSOCIATION FINANCIAL AID

The College's private alumni association has established a revolving fund to provide low-interest loans to entering students who demonstrate financial need and great promise of academic success. Repayment on these loans may be started up to five years after the recipient's departure from the College, and the total repayment period may be extended to ten years.

Applicants seeking the financial aid described above must participate in the Graduate and Professional School Financial Aid Service (GAPSFAS). [To be eligible to apply for a Merit Loan or Non-resident Tuition Scholarship, an applicant must have an *overall* undergraduate grade point average of *at least* 3.20 on a 4.0 system, and obtain an averaged LSAT score of 625 or higher. Keep in mind that these are *minimum* criteria. Successful applicants will have superior credentials.] GAPSFAS applications may be obtained by writing to Box 2614, Educational Testing Service, Princeton, N.J. 08540, or the College of Law Administration Office. The GAPSFAS report must be received on or before November 1, for the following Spring entrants and March 1, for the following Fall entrants. Interested minority applicants should communicate directly with the Coordinator of Minority Affairs or the College of Law for information.

College of Medicine

The College of Medicine, a unit of the J. Hillis Miller Health Center, began operations in 1956 and is located on the south end of the campus. This location in direct proximity to University facilities offers many opportunities to engage resources of the University in the educational and investigative programs of the College. For example, there exist joint programs with the Division of Biological Sciences, and the College of Engineering as well as with the other colleges of the Health Center. Also, computational and statistical services, are available through University resources.

The College of Medicine is responsible for several major educational programs. Foremost is the four year program leading to the M.D. degree into which 118 students are accepted annually. After graduation the young physicians enter residency programs. Presently, the College of Medicine offers approximately 350 such positions. The basic medical science departments offer the Ph.D. degree in the Medical Sciences with specialization in Anatomy, Biochemistry and Molecular Biology, Immunology and Medical Microbiology, Neuroscience, Pathology, Pharmacology and Therapeutics, and Physiology.

Further training is offered through a number of positions for post-doctoral research fellows in all basic science and clinical departments. The clinical departments conduct frequent seminars as part of their continuing education program for practicing physicians. In addition, some of the clinical departments have assumed responsibility for community medicine programs in communities surrounding Gainesville.

The faculty is dedicated to a teaching program of high quality. Close faculty-student relationship is encouraged by the design of the four year curriculum. The educational program is structured to enable the graduate to choose any career offered in medicine. Therefore, emphasis is placed on understanding of fundamental biological principles, and their relevance for the practice of medicine.

Students intending to apply for admission should complete the requirements for a Bachelor's degree although a limited number of exceptional students may be considered for admission at the end of their third year of college. An applicant to the College of Medicine must have personal qualities of the highest order — character, integrity, intellectual honesty, responsibility, maturity, initiative, and aptitude. In addition, the students must have demonstrated superior intellectual achievement during undergraduate work.

An honors program exists for undergraduate students who have chosen a career in the medical profession and who have demonstrated both superior scholastic ability and personal development during their first two college years. Students are chosen for the program at the end of their Sophomore year. The third year consists of 2/3 arts and sciences and 1/3 college of medicine credit. The latter is offered in a seminar form. Conversely, the fourth year is partitioned into 1/3 arts and sciences — 2/3 college of medicine. Since the College of Arts and Sciences grants academic credit for all of the third year work and part of the fourth year work, a participating student receives a BS degree and completes one year of medical school in a total of four years. Early entry into medically oriented instruction with sensible acceleration of education is obtained without loss of the important components of a broad education. The program is limited in size to 15 students per year in order to retain the discussion seminar format.

Unusually gifted students may enter a combined M.D.-Ph.D. program which offers a unique opportunity of integrating clinical experience with competence in basic biomedical research. This program is a consequence of the dependence of the practice of medicine on scientific advances in the biological sciences.

Since 1971, the College of Medicine has developed, with Florida State and Florida A and M Universities, an innovative, interinstitutional plan for medical education which integrates the first year of the medical school curriculum with the undergraduate degree programs of FSU and FAMU. Students receiving secured status from the FSU-FAMU Program in Medical Sciences are guaranteed entry into the second year of the medical curriculum.

The College of Medicine has responsibility for patient care, teaching and research at the Veterans Administration Hospital located next to the J. Hillis Miller Health Center. A formal affiliation was established with the Jacksonville Health Education Program, Inc. in 1969 for the purpose of providing combined educational and clinical resources. In addition the College is involved in several projects concerned with Community Health Care.

Further detailed information will be found in the College of Medicine or the Graduate School catalogs. Copies may be obtained by writing to the Registrar, University of Florida, Gainesville, Florida 32611.

PHYSICIAN'S ASSISTANT PROGRAM

GENERAL STATEMENT

The Physician's Assistant Program offered by the College of Medicine, University of Florida, is designed to prepare health care professionals who will perform certain functions traditionally performed by licensed physicians. The primary objective of the program is to prepare a physician's assistant who provides comprehensive health care, under the supervision of a licensed physician, to family members at various points along the age continuum. The curriculum of this program offers the student in-depth content in the basic and medical sciences.

The Florida legislature in the Spring of 1971, amended the Medical Practice Act to define and regulate the functions of physician's assistants. The Program in the College of Medicine began in the Fall of 1972. In 1972, the National Board of Medical Examiners, with the concurrence and cooperation of the American Medical Associations' Council on Health Manpower, embarked upon a national program to certify assistants to the primary care physician. This program was awarded full accreditation by the American Medical Association's Council on Medical Education in 1977.

An admissions committee determines the students who are to be selected. Enrollment is based on limitations imposed by laboratory and clinical facilities and materials. Admission to the physician's assistant major is open in the Fall Quarter only.

REQUIREMENTS FOR ADMISSION

The University of Florida and the College of Medicine encourage applications from qualified applicants of both sexes from all cultural, racial, religious, and ethnic groups. Listed below are the specific requirements for admission to the Physician's Assistant Program. It should be understood, however, that minimum requirements are given and that admission to this program is a selective process. The satisfaction of minimum requirements does not automatically guarantee admission.

To be eligible for admission to the College of Medicine Physician's Assistant Program, an undergraduate or post-baccalaureate student must:

1. Complete all lower division courses in the PRE-PHYSICIAN'S ASSISTANT CURRICULUM described in this catalog.
2. Pass all required preprofessional courses at a "C" or better level. **NOTE:** CLEP credit does not substitute for any of the preprofessional requirements.
3. Show evidence of sound physical and mental health.
4. Have one year of direct patient care contact.

In addition to the above requirements, each applicant must satisfy the requirements listed under the following sections:

A. FLORIDA PUBLIC JUNIOR COLLEGE GRADUATES or

B. APPLICANTS OTHER THAN FLORIDA PUBLIC JUNIOR COLLEGE GRADUATES, as appropriate.

A. Florida Public Junior College Graduates

The University of Florida subscribes to the Articulation Agreement between the State universities and public junior colleges of Florida. Under this agreement, any graduate of a State approved Florida public junior college is eligible for admission to the university if the student has completed the university parallel program and received the Associate in the Arts degree, provided the degree has been awarded on the basis of the following:

1. At least 60 semester hours (90 quarter hours) of academic work exclusive of occupational courses;
2. An approved general education program of at least 36 semester hours (54 quarter hours);
3. A grade point average of at least 2.0 on a 4.0 system on all college level academic courses attempted.

NOTE: All applicants for admission to the University of Florida must present scores on an acceptable general ability test. In the case of applicants who have graduated from a Florida public junior college with the Associate in Arts degree, this information is required for counseling and research purposes only and the score achieved on the test will not be a criterion for admission. However, the required test information must be received by the Admissions Office before an application can be given final approval.

Within space and fiscal limitations, applicants who have satisfied the above minimum requirements will be considered for admission at the Junior level. Such students may be required to take additional preprofessional courses not completed at the junior college. However, such courses will not reduce the number of credits required in the Upper Division for a degree.

B. Applicants Other Than Florida Public Junior College Graduates

This section applies to students seeking to transfer from a Florida public junior college without an Associate in Arts degree in a university parallel program and to all undergraduate transfer applicants from other colleges or universities.

1. Advanced standing credit: An applicant must present a minimum of 64 semester hours (or 96 quarter hours) of acceptable college courses, not more than four semester hours of which are in Military Science and/or basic required Physical Education as credit for advanced standing.
2. Specific course requirements: An applicant must present the courses listed as required for this program, or acceptable substitutes, as part of the courses offered for advanced standing credit. (An applicant lacking some of the specific course requirements may be permitted to enroll in the college and complete them if all other requirements for admission are satisfied, however, such courses will not reduce the number of credits required in the Upper Division for a degree.)
3. Satisfactory record: An applicant must have an overall average of "C" or higher as computed by the University of Florida on all work attempted at each institution previously attended. Regardless of average, courses completed at other institutions must reasonably parallel the curriculum at the University of Florida.
4. Good standing: An applicant must be in good standing and eligible to return to any institution previously attended.
5. Satisfactory conduct record: Regardless of other qualifications, an applicant who has experienced serious or continuing difficulty with school or other authorities may find his application disapproved.

APPLICATION PROCEDURES

The following information will serve as a guide in expediting entry into the College of Medicine Physician's Assistant Program in compliance with the above requirements.

1. Admission to the Physician's Assistant major is open in the Fall Quarter only.
2. Applicants who have not been previously enrolled at the University of Florida must have the completed application for admission form and application fee, official transcripts from each institution attended, and official test scores on file in the Admissions Office, 135 Tigert Hall, by February 1 of the year they wish to enter the program.
3. Applicants who have previously been enrolled at the University of Florida should direct their inquiries to Readmissions Section, Office of the Registrar, University of Florida.
4. A student information form packet must be obtained from the Physician's Assistant Program office in the College of Medicine. This form must be completed and returned to the Physician's Assistant Program, College of Medicine, Box J-222 MSB-JHMC, University of Florida, Gainesville, Florida, 32610 by February 1.
5. When the required credentials have been received by the Admissions Office a referral form will be prepared and forwarded along with copies of all credentials to the College of Medicine for review by the admissions committee of the Physician's Assistant Program.
6. Upon receipt of the referral form from the Admissions Office, applicants will be notified by the College of Medicine as to the status of their application. Qualified applicants will be invited for personal interviews. Priority in selection for admission will be given to those applicants whose potential on the basis of their total record indicates the greatest likelihood of success as a physician's assistant.

PRE-PHYSICIAN'S ASSISTANT CURRICULUM

The following courses must be completed prior to the Physician's Assistant major. These courses or acceptable equivalents may be incorporated in the general education requirements of a community college or lower division program.

GENERAL EDUCATION REQUIREMENTS:

	Credits
English	9
Math (college algebra)	4
Behavioral studies	4
Social Science	9
Humanities	12
*Physical Sciences	6-9
*Biological Sciences	6-9
Physical Education	3
Sub-Total	56
**Electives	40
Total	96

*Three credits of either of these courses may be omitted.

**The remainder of the college work should be distributed throughout the humanities and social, biological, and behavioral sciences. The courses may aim toward a thorough study of a single area with a general background in many areas, or may group in several related areas in the sciences or humanities.

PREPROFESSIONAL REQUIREMENTS:

General Chemistry	4
Algebra	5
Biology (content emphasis recommended in molecular biology)	5

NOTE: These courses may be used to satisfy general education requirements. Additional chemistry courses beyond the minimum will enhance the chances for an applicant's acceptance.

CURRICULUM

FIRST PROFESSIONAL YEAR

Quarter I	Credits
PAS 3006 Primary Care 1	4
PAS 3005 Behavioral Dynamics/Community Health	4

PAS 3021 Physiology	4
PAS 3000 Patient Evaluation	3
Total	15

Quarter II

PAS 3001 Patient Evaluation	3
PAS 3024 Microbiology	3
PAS 3022 Anatomy	5
PAS 3020 Primary Care 2	4
Total	15

Quarter III

PAS 3002 Patient Evaluation	3
PAS 3023 Pharmacology	2
PAS 3007 Clinical Procedures	4
PAS 3003 Primary Care 3	4
Total	13

SECOND PROFESSIONAL YEAR

Quarter IV-VII	*Credits*
Clinical	60
Total Credits:	
Lower Division	96
Upper Division	103
Grand Total	199

REQUIREMENTS FOR DEGREE

To be eligible for the degree, Bachelor of Science in Medicine, the student must:

1. Satisfactorily complete all courses required by the College, faculty and approved by the University.
2. Earn at least 199 credit hours, 96 of which must be earned before entering the College of Medicine Physician's Assistant Program.
3. Complete the work of the upper division with an overall 2.0 grade point average.
4. Earn a grade of "C" or better in each upper division course.

PROBATION, SUSPENSION, AND EXCLUSION FOR ACADEMIC REASONS

If a student receives a "D" or "E" in a required course, the student must withdraw from the program. If space is available, upon petition to the department faculty committee, the student may be permitted to repeat the course the next time it is offered. A course may be repeated only once.

CERTIFICATION

Upon satisfactory completion of the program the graduate will be awarded the degree of Bachelor of Science in Medicine and is then eligible for the National Certification Examination offered by the National Commission on Certification of Physician's Assistants.

HEALTH POLICIES

The College of Medicine requires evidence of sound physical and mental health for admission. The college also requires a student to have specified immunizations and health screening tests periodically. These requirements are subject to change depending upon current knowledge and practice relating to health care. An annual health examination is recommended.

Each student registered in the Physician's Assistant Program is expected to have adequate hospitalization insurance. Students eligible for the health insurance plan sponsored by the student government may purchase it at the time of registration.

EXPENDITURES

The student is referred to the section in the University of Florida catalog for information about EXPENSES and also to the program information sheet.

Some physician's assistant courses require experiences away from the campus. For such courses, the student will need to provide for transportation and housing.

OFFICE OF STUDENT FINANCIAL AID

Information relating to sources of financial aid, as well as information relating to student employment may be obtained from the Office of Student Financial Aid.

Additional information relating to financial aid may be obtained from the office of the Physician's Assistant Program.

For further information write:

Physician's Assistant Program
Box J-222 MSB
College of Medicine
University of Florida
Gainesville, Fla. 32610

College of Nursing

GENERAL STATEMENT

The purposes of the College of Nursing are to conduct undergraduate and graduate degree programs in nursing; to conduct nursing internships and residency programs; to create the structure and climate that will promote colleague relationships with staff in the broad health field; to conduct nursing research; and to conduct continuing education programs in nursing.

The establishment of the College of Nursing within the frame-work of the J. Hillis Miller Health Center at the University of Florida offers a unique opportunity to provide collegiate and professional development for nursing in a university setting. The Shands Teaching Hospital of the J. Hillis Miller Health Center houses outpatient clinics, an ambulatory unit, a psychiatric unit, and hospital units for seriously ill patients. Other community facilities, such as public health agencies, community hospitals and outreach clinics are also used to prepare students for beginning professional nursing positions. The student has opportunities for supervised observation and practice in selected phases of health care.

The nursing profession applies scienific and humanistic processes to the solving of nursing problems of individuals, families, and communities. The efforts of nursing are directed toward the nurturing, comforting, strengthening, teaching, maintaining, environmental supervising, and motivating of clients.

The program of the College of Nursing is fully accredited by the National League for Nursing and is approved by the Florida State Board of Nursing.

REQUIREMENTS FOR ADMISSION

The University of Florida and the College of Nursing encourage applications from qualified students from all cultural, racial, religious, and ethnic groups.

Preparation for professional practice requires a very careful selection of learning experiences and adequate supervision and guidance. Therefore, applicants are considered by the Admissions Committee as candidates for admission to the College within established numerical limits.

Listed below are the specific requirements for admission to this College. It should be understood however that minimium requirements are given and that admission to this College is a selective process. The satisfaction of minimum requirements does not automatically guarantee admission.

To be eligible for admission to the College of Nursing, the student must:

1. Satisfy the minimum requirements for admission to a specific College that are set forth in the ADMISSIONS Section of the University catalog.
2. Earn at least 96 quarter hours of acceptable College credit with an overall average of 2.8 or higher on all college level work attempted.
3. Complete all lower division courses indicated in the pre-nursing curriculum for students planning to enter the College of Nursing.
4. Pass all required preprofessional courses at a "C" level or better.

The following information will serve as a guide in expediting entry into the College of Nursing in compliance with the above requirements.

Application to the upper division College of Nursing should be made during the quarter before the student will complete the 96 hours required for admission. Students are selected twice yearly. The completed applications must be in the College of Nursing Registrar's office by the following deadlines:

Selection for	*Deadline*
Fall Quarter —	June 1
Spring Quarter —	December 1

Upon receipt of transcripts and application information required by the College of Nursing, all applicants will be individually screened. Applicants may be invited for interviews at the discretion of the admissions committee. Factors given consideration in evaluating applicants include: cumulative grade point average; performance in the sciences; extent to which applicant meets or exceeds minimum requirements; extra curricular, civic, military or employment activities; evidence of commitment to the health field; and the ability to communicate in writing.

Those applicants with the highest total rankings are accepted in order until the class quota is filled. If vacancies occur prior to the enrollment date, those next on the list are accepted to fill them.

Florida residents are given priority. Nonresidents are admitted only after all qualified resident applicants have been admitted.

PRE-NURSING CURRICULUM

GENERAL EDUCATION:

The following courses must be completed prior to admission to the professional nursing major. The courses or acceptable equivalent may be incorporated in the general education requirements of a community college or university college (See section on Nursing under College of Liberal Arts & Sciences.)

Courses	*Qtr. Hr. Credits*
English	6
Social Science	6
Anthropology or Sociology	4
Physical Science	6
Biological Science	8
Humanities	12
Behavioral Studies	8
Physical Education	2
Sub-total	52

***Pre-Professional:**	
Microbiology	5
**Human Nutrition	4
Developmental Psychology or Human Growth & Development	4
Human Anatomy and Physiology	8
Expository Writing	3
Statistics or Algebra	4
Chemistry	4
Sub-total	32
Electives	12

*Preprofessional courses may not be met by CLEP.
**Human Nutrition may be taken by correspondence.

ACADEMIC ADVISEMENT

Academic advisement is available for those students interested in professional nursing as a career. As soon as nursing is a definite career choice, the student may request such advisement by contacting the College Registrar.

REGISTERED NURSE STUDIES

Registered Nurses are eligible to apply for admission to the College of Nursing. They must complete all prerequisites but admission alternatives are available.

Registered Nurse applicants with a 3.0 (B) or above who have satisfied 80 quarter hours of the requirements for admission to the College may request provisional admission

status by the College of Nursing to complete the remainder of the required prerequisite courses at the University of Florida. Registered Nurse students may continue in provisional admission status provided one course per quarter is satisfactorily completed. Entry into clinical courses requires the completion of all prerequisites. A current Florida Registered Nurse license is required and priority is given to nurses in practice. The Office of Registered Nurse Studies will advise all registered nurse applicants regarding required coursework and placement.

Additional informaton regarding curriculum alternatives for Registered Nurses may be obtained from the Office of Undergraduate Studies.

STUDENT EVALUATION — STUDENT DEVELOPMENT COMMITTEE

At the end of each academic quarter or when otherwise deemed appropriate in individual cases, the College of Nursing Student Development Committee will meet to review each student's academic and professional record and/or status. Following a complete review of the records, the Committee will recommend appropriate action to the Dean. In reviewing each student's performance, the Committee shall utilize the following guidelines deemed essential to the maintenance of a student's good standing:

(a) Any grade of 'C" or above shall be considered passing.

(b) A student may repeat up to 13 credit hours of Nursing courses. A course may be repeated only once. Any student who earns more than 13 hours of unsatisfactory work (below "C") will be dismissed.

(c) Breaches of professional conduct as outlined in the Florida Nurse Practice Act, failure to meet any conditions on performance set by the Student Development Committee or the College, and offenses involving moral turpitude, will subject a student to College action including, in appropriate cases, warning, probation (with or without conditions), suspension and/or permanent dismissal from the College. These actions will be taken in addition to any disciplinary action taken by the University of Florida under its Student Conduct Code.

(d) The Student Developoment Committee will notify the student in writing of all proposed adverse actions which the Committee feels are appropriate.

(e) Any student has the right to request a meeting with the Student Development Committee within 10 days after receiving written notification of the proposed action to discuss the basis for the recommendation. Following this review or in the absence of such a request, the Committee shall forward its proposed action to the Dean.

(f) The Dean of the College will review all recommendations and take final action.

REQUIREMENTS FOR DEGREE

To be eligible for the degree Bachelor or Science in Nursing the student must:

1. Satisfactorily complete all courses required by the College faculty and approved by the University.
2. Earn at least 198 credit hours, 90 of which must be upper division.
3. Complete the work of the upper division with an overall 2.0 grade point average or better.
4. Earn a grade of "C" or better in each nursing course.
5. Complete the achievement exams during Senior Year.
6. Be in good conduct standing and not subject to any sanction by the Student Development Committee of the College of Nursing or the University of Florida which would be inconsistent with graduation.

The faculty will recommend to the Dean those students who have satisfactorily met College requirements and are eligible for graduation.

GRADUATION WITH HONORS

Superior students may be recommended for graduation with Honors. Nomination and selection of students will be made by the Honors/High Honors Sub-committee. Excellence of different types and varied fields will be considered, such as superior academic work, outstanding student research, and other special achievements.

RESIDENCE REQUIREMENT

The College of Nursing complies with the requirements for residency as stated in the section—*Student Regulations-Degrees and Graduation*, University of Florida catalog.

LICENSURE

Upon satisfactory completion of the program, the graduate will be awarded the degree of Bachelor of Science in Nursing and is then eligible for the Florida State Board of Nursing examination for state licensure as a Registered Professional Nurse.

HEALTH POLICIES

The College of Nursing requires the student to have specified immunizations and health screening tests periodically. These requirements are subject to change depending upon current knowledge and practice relating to health care. An annual health examination is required.

Each student registered in clinical nursing courses is expected to have adequate hospitalization insurance. Students eligible for the health insurance plan sponsored by the Student Government may purchase it at the time of registration.

UNIFORM INFORMATION

In order to participate in the activities of the first clinical course, all nursing students will be required to have a name pin, white uniform, College of Nursing Emblem for uniform, white nursing shoes, bandage scissors, a watch with a second hand, a stethoscope, and a pen light. More detailed uniform information is sent upon admission.

EXPENDITURES

The student is referred to the section in the Univerity of Florida catalog for information about expenses.

Other expenditures include the items listed under Uniform information. Some nursing courses require experience away from campus. For such courses, the student will need to provide transportation. Achievement exams during Senior Year are required and are paid for by the student.

CURRICULUM

The Nursing program is four years in length. During the first two years at another institution or in Liberal Arts and Sciences, instruction is centered around the comprehensive courses to give the student a full, rich background for citizenship and a professional career.

The Nursing major involves professional experience in a variety of clinical settings for in-patient and out-patient care of individuals. These experiences include community health agencies, hospitals, primary service institutions and homes. Nursing courses involve extensive classroom activities correlated with supervised observation and practice in the understanding, prevention, maintenance, and curative processes of health care.

Sample Curriculum Plan

FIRST QUARTER

Course	*Credits*
NUU 3160C Dynamics of Human Behavior I	4
NUU 3210C Nursing Process I	6
Total	10

SECOND QUARTER

Course	*Credits*
NUU 3161C Dynamics of Human Behavior II	5
NUU 3220C Nursing Process II	8
NUU 3431 Professional Socialization	2
Total	15

THIRD QUARTER

Course	*Credits*
NUU 3162C Dynamics of Human Behavior III	5
NUU 3221 Nursing Process III	8
Total	13

FOURTH QUARTER

Course	*Credits*
NUU 4500 Health Problems I	5
NUU 4225C Nursing Process IV	8
Total	13

FIFTH QUARTER

Course	*Credits*
NUU 4501C Health Problems II	5
NUU 4226C Nursing Process V	8
Total	13

SIXTH QUARTER

Course	*Credits*
NUU 4502C Health Problems III	5
NUU 4227C Nursing Process VI	8
Total	13

SEVENTH QUARTER

Course	*Credits*
NUR 4943 Nursing Process VII	10
NUU 4432 Professional Socialization	3
Total	13
Total Professional Nursing	Total 90
Additional Electives	12
Total Curriculum Requirements	102

TOTAL CREDITS

General Education	64
Preprofessional Education	32
Professional Nursing Requirements	102
Grand Total Credits	198

Elective Nursing courses are available to all students. (See Course Description section).

HONORARY ORGANIZATIONS

SIGMA THETA TAU, INC.

Sigma Theta Tau, Inc. is the only national Honor Society of Nursing in the United States. Constituent chapters, such as Alpha Theta Chapter at the University of Florida, are established in collegiate schools of nursing accredited by the National League for Nursing, Sigma Theta Tau, Inc. is professional rather than social, and its purposes are: to recognize the development of leadership qualities; to foster high professional standards; to encourage creative work; and to strengthen commitment on the part of individuals to the profession of nursing. Members are chosen for this organization primarily on the basis of scholastic average and leadership ability.

COLLEGE OF NURSING STUDENT COUNCIL

The Nursing Student Council works cooperatively with the faculty and student of the College of Nursing on matters which involve the nursing faculty and student body. The council functions are: (1) to serve as a two-way channel of communication between faculty and students; (2) to act as a review committee to appoint student representatives to the faculty-student committees; (3) to serve as a fact-finding body for matters of concern relating to the students of the College of Nursing; and (4) to organize and promote College of Nursing social functions. Council representatives are elected from each rotation every September.

STUDENT NURSES' ASSOCIATION OF FLORIDA (SNAF)

The Student Nurses' Association of Florida (SNAF) is a preprofessional organization designed to orient the nursing student to eventual membership and participation in the professional organization, the American Nurses' Association.

Some of the projects undertaken by SNAF include: (1) resource assistance for state board examinations; (2) participation in community and charitable projects; (3) recruitment and orientation of prospective nursing students to this program; (4) participation in various interests in the College of Nursing affecting the student body as a whole; and (5) gathering information regarding pending legislation affecting the nursing profession.

SNAF is organized and implemented by nursing students, and its success depends entirely on active participation and membership of all nursing students.

STUDENT FINANCIAL AID

Information relating to sources of financial aid, as well as information relating to student employment may be obtained from the University Office of Student Financial Affairs.

Additional information relating to financial aid may be obtained from the office of the Dean of the College of Nursing.

GRADUATE STUDIES

The College of Nursing offers the Master of Nursing (nonthesis) and the Master of Science in Nursing (thesis) degrees. Areas of specialization include Women-Infant Health Care, Child Health Nursing, Family Health Nursing, Adult Health Care, and the functional areas of teaching, administration, clinical specialization, and research.

Consult the Graduate School catalog.

MEDICINAL CHEMISTRY
PHARMACY

College of Pharmacy

BACHELOR OF SCIENCE IN PHARMACY

GENERAL STATEMENT

The College of Pharmacy offers a curriculum leading to the degree of Bachelor of Science in Pharmacy and the degree Doctor of Pharmacy (Pharm.D.). See page 174. M.S. and Ph.D. degrees are offered in Pharmaceutical Sciences through the Graduate School. See Graduate School Catalog.

The present baccalaureate curriculum of 143 quarter hours is designed to provide a variety of career opportunities to the pharmacy graduate. All students are required to complete a basic core of courses and an additional number of electives comprising cultural and professional subjects.

The curriculum provides instruction in subjects which are essential for the successful practice of the profession in community, hospital, and institutional pharmacies. Men and women graduates are in demand as sales representatives for wholesale and manufacturing pharmaceutical firms. They are eligible for a limited number of commissions in the U.S. Public Health Service and the Armed Forces. The courses provide a strong basis for additional study in preparation for research or analytical work in the pharmaceutical, chemical, biological, and cosmetic industries as well as inspection of food and drugs.

The College of Pharmacy, a unit in the J. Hillis Miller Health Center, meets the highest requirements of pharmaceutical instruction in this country. The College is accredited by the American Council on Pharmaceutical Education and therefore receives recognition for its courses from state boards requiring graduation from an accredited college of pharmacy as a prerequisite for examination and registration. The College is a member of the American Association of Colleges of Pharmacy and complies with its educational requirements.

Students in the University College who plan to major in pharmacy are urged to contact the Office for Student Affairs of the college of Pharmacy for advisement. Literature describing the opportunities in Pharmacy may be secured in the Office for Student Affairs.

REQUIREMENTS FOR ADMISSION

The University of Florida and the College of Pharmacy encourage applications from qualified students from all cultural, racial, religious and ethnic groups. Listed below are the specific requirements for admission to this College. Admission to this College is a selective process; therefore, meeting the minumum requirements for admission does not automatically guarantee acceptance. The dean and faculty of the College of Pharmacy are aware of the need to graduate an increasing number of qualified pharmacists. However, due to limitations of staff and facilities, the College has had to establish quotas for the admission of new students. Through the Admissions Committee, the College of Pharmacy selects eligible applicants on an annual basis within its established quota. The quota is currently set at 128 new students each year.

March 1 of the year the student wishes to enter is the deadline for submitting the completed application to the University Registrar. Because of the large number of applications, the College of Pharmacy reserves the right to refuse consideration of any application for admission received by the Registrar after the deadline. All applications received by this date will be reviewed and given careful consideration.

The Admissions Committee of the Office for Student Affairs will consider such factors as educational objectives, adequacy of prerequisites, student performance and academic record, completion of the recommended prepharmacy program in the normal period of time, motivation for scholarly achievement and a career in the profession, test data, interview evaluation, and the student's personal record.

Students demonstrating evidence of academic excellence, a strong motivation for a career in the pharmacy profession and an acceptable interview evaluation will be given priority for admission and will be notified of their acceptance. Applicants whose qualifications clearly indicate that they will not be selected within the quota will be notified at the earliest possible date.

Since only one sequence of the required professional courses is offered each year, admission of new students to the College of Pharmacy is limited to the fall quarter. An applicant who is not selected under the established quota should notify the University Registrar, Admissions Section, in writing if he wishes to be considered for admission for the following academic year.

All applicants are required to take the Pharmacy College Admission Test (PCAT). Request for information and application form to take the PCAT should be directed to: Pharmacy College Admission Test, The Psychological Corporation, 304 East 45th Street, New York, New York, 10017. Examinations are held on a Saturday three times a year, usually the second week in November, February, and May. For applicants residing in Florida, the test may be taken in Gainesville, Miami, Tallahassee, or Tampa. Students taking the PCAT should request that scores be sent to Dr. Richard H. Hammer, Assistant Dean, Office for Student Affairs, College of Pharmacy, University of Florida, Gainesville, Florida 32610.

Although the PCAT is given three times a year, it is important that students take the November testing, and no later than in February, if application for admission is being made for the following fall quarter. Notification to take the test must be submitted to The Psychological Corporation by October. PCAT scores must be sent to the College of Pharmacy as soon as possible to prevent delays, since interviews of applicants start in January or earlier.

Applicants having a Bachelor of Pharmacy or Bachelor of Science in Pharmacy degree received in a foreign country, seeking admission to obtain the B.S. degree in Pharmacy as a post-baccalaureate student for purpose of state board of pharmacy examinations are required to take the PCAT. Applicants whose degree was obtained in a non-English speaking country must submit satisfactory scores on the TOEFL (Test of English as a Foreign Language). The completed application together with PCAT and TOEFL scores must be submitted to the Office of the Registrar by June 1.

Lower Division Liberal Arts and Sciences Students: To be eligible for admission to the College of Pharmacy the applicant must have: (1) earned at least 96 quarter hours of acceptable college credit with an overall average of "C" or higher on all college level work attempted; (2) completed all lower division courses required for the desired curriculum as indicated in the program for the Freshman and Sophomore years in the college of Liberal Arts and Sciences section of this catalog; and (3) passed all required preprofessional courses within the lower division curriculum.

Transfer Students: To be eligible for admission to the College of Pharmacy, a transfer student must satisfy the minimum requirements for admission to an Upper Division College that are set forth in the ADMISSIONS Section of this catalog. Additionally, the applicant must satisfy the following specific requirements for admission to the College of Pharmacy: (1) The applicant must have completed the courses required for the desired curriculum as indicated in the program for the Freshman and Sophomore years in the College of Liberal Arts and Sciences section of this catalog or their equivalent; and (2) passed all required preprofessional courses with an overall average of "C" or higher. The following conditions will serve as a guide in expediting transfer to the College of Pharmacy in compliance with the above requirements.

A. Students attending four-year colleges, who wish to transfer after two years, should follow a program of general education and preprofessional courses similar to the Basic Curriculum for the Freshman and Sophomore Years

for students planning to enter the College of Pharmacy as outlined in the College of Liberal Arts and Sciences section of this catalog.

B. Junior College Students Should.

1. Complete the two-year college parallel program at the junior college.
2. Satisfy the general educaton requirements established for the junior college.
3. Complete the following prerequisites:
   a. A one-year program in general chemistry
   b. A one-year program in organic chemistry
   c. A one-year program in physics
   d. One-year program in the biological sciences
   e. A mathematics program through the first course in calculus

ORIENTATION

All new entering students starting the fall quarter in September are required to attend a five day pharmacy orientation which will be held during the week prior to the beginning of classes.

RESIDENCE REQUIREMENT

In keeping with the requirements for accreditation, all students expecting to earn the degree of B.S. in Pharmacy must be enrolled in one or more pharmacy courses for a minimum of nine quarters. This regulation applies regardless of the number of studies completed in other fields.

REQUIREMENTS FOR GRADUATION

The Degree of Bachelor of Science in Pharmacy is awarded on completion of the curriculum as outlined. In order to graduate, (a) a student must have at least an overall 2.00 grade point average for all courses taken while enrolled in the College of Pharmacy, and (b) he must also have a minimum 2.00 grade point average in all required basic courses in the pharmacy curriculum exclusive of electives.

GRADUATION WITH HONORS

To be considered for graduation with Honors, a student must not have less than a 3.20 grade point average in all courses completed in the College of Pharmacy.

To graduate With High Honors, a student must meet the requirements for graduation With Honors and be recommended for graduation With High Honors by the faculty. No more than five percent of the graduating class will be considered for High Honors.

CURRICULUM

To be eligible for the degree of Bachelor of Science in Pharmacy all requirements of the curricula for pharmacy students in both the University College and the College of Pharmacy must be completed. The professional sequence of courses is on an annual basis beginning only in September each year. Students transferring to Pharmacy should contact the Office for Student Affairs, College of Pharmacy, J. Hillis Miller Health Center. All entering students will be required to complete the basic courses listed below.

The remaining courses will comprise 24 credits of electives of which 18 credits must be selected from the Approved Electives List and the remainder selected from all offerings by the student.

The curriculum for the three professional years is as follows:

PROFESSIONAL CURRICULUM

FIRST PROFESSIONAL YEAR

First Quarter	*Credits*
PHA 3411 Analytical Pharmaceutical Chemistry	4
BCH 4313 Biochemistry	5
PHA 3710 Pharmaceutical Calculations	1
[a]PHA 4232 Pharmaceutical Law or Electives if desired	5
[b]PHA 3630C Externship 1	3
or	
PHA 3631C Externship 2	3
Total	18
Second Quarter	
PHA 3110C Pharmaceutics 1	5
PHA 3500C Applied Human Anatomy-Physiology 1	5
BCH 4203 Biochemistry	5
[b]PHA 3412L Analytical Pharmaceutical Chemistry	2
or	
PHA 3631C Externship 2	3
Total	17 or 18
Third Quarter	
PHA 3111C Pharmaceutics 2	5
PHA 3501C Applied Human Anatomy-Physiology 2	5
PHA 3020 Microbiology	4
[b]PHA 3412L Analytical Pharmaceutical Chemistry	2
or	
PHA 3630C Externship 1	3
Total	16 or 17

SECOND PROFESSIONAL YEAR

First Quarter	*Credits*
PHA 4120 Pharmaceutics-Biopharmaceutics	4
PHA 4560 Pathophysiology-Disease Processes	4
PHA 4350 Medicinal Chemistry 1-Natural Products	4
PHA 4232 Pharmaceutical Law or Electives if desired	5
Total	17
Second Quarter	
PHA 4516 Pharmacology 1	5
PHA 4103C Pharmaceutics-Dispensing	4
PHA 4435 Medicinal Chemistry 2	5
PHA 4602 Therapeutics 1	3
Total	17
Third Quarter	
PHA 4517 Pharmacology 2	5
PHA 4436 Medicinal Chemistry 3	5
PHA 4603 Therapeutics 2	5
Total	15
Fourth Quarter	
[e]Electives	15
or	
PHA 4632C Practicum Clerkship	15
or	
[f]Internship	

THIRD PROFESSIONAL YEAR[c]

First Quarter	*Credits*
[d]Electives	15
or	
PHA 4632C Practicum Clerkship	15
or	
[f]Internship	
Second Quarter	
[d]Electives	15
or	
PHA 4211 Pharmacy Management	5
PHA 4769 Non-Prescription Products	3
Electives	7
or	
PHA 4632C Practicum Clerkship	15
or	
[f]Internship	

Third Quarter

[d]Electives 15
or
PHA 4211 Pharmacy Management 5
PHA 4769 Non-Prescription Products 3
Electives 7
or
PHA 4632C Practicum Clerkship 15
or
[f]Internship

Total hours 143

[a]PHA 4232 may be taken the First Quarter of the First or Second Professional Years at the option of the student.

[b]In the Second Quarter students who have already taken PHA 3630C will take PHA 3631C and take PHA 3412L in the Third Quarter. Those who took PHA 3631C in the First Quarter will take PHA 3412L in the Second Quarter and PHA 3630C in the Third Quarter.

[c]During this year (including the Summer Quarter following the Second Professional Year) the student must complete the following:

	Credits
PHA 4211 Pharmacy Management	5
PHA 4769 Non-Prescription Products	3
PHA 4632C Practicum Clerkship	15
Electives To satisfy the minimum 24-credit hour requirement	

[d]**Electives**

During the three years in the professional curriculum each student is expected to complete 24 credits in elective courses in a program designed by the student to meet individual objectives. Of the 24 credits 18 must be selected from the Approved Electives List. The remainder may be selected by the student from all offerings except those courses prerequisite to required courses in the College or prepharmacy program.

[e]Students wishing to graduate at the end of the Winter Quarter of the third professional year should take Practicum Clerkship (15 cr.) or Electives (15 cr.) or intership during the Summer Quarter of the second professional year.

[f]**Internship**

Internship is required for licensure and though the College supervises it in conjunction with the Florida Board of Pharmacy, no academic credit is given for internship. Students are required to complete two full quarters of internship and may be required to fulfill their internship in other cities other than Gainesville at their own expense.

GRADUATE DEGREES

The College has two recognized departments within its Pharmaceutical Sciences Program, namely, the Department of Pharmacy and the Department of Medicinal Chemistry, and offers graduate education leading to both the Master of Science in Pharmacy and Doctor of Philosophy degrees in each major. Students interested in pursuing graduate degrees in Pharmaceutical Sciences need not necessarily have a B.S. degree in Pharmacy. Baccalaureates with majors in chemistry, biology, and allied sciences are invited to apply.

A number of specialized areas within the two departments are offered. As examples, the student may pursue graduate work in any one of the following fields of concentrated emphasis: (1) pharmaceutics and/or bio-pharmaceutics; (2) pharmaceutical product development; (3) synthetic medicinal drugs; (4) natural products — isolation, identification, synthesis, and medicinal uses; (5) design and synthesis of prodrugs; (6) drug metabolism, drug toxicology, and analysis; (7) analytic pharmaceutical chemistry; (8) pharmaceutical biology; (9) pharmacy health care; (10) pharmaceutical marketing; and (11) hospital pharmacy administration.

For additional information on graduate degrees in Pharmaceutical Sciences, see the Graduate School Catalog and consult with the Graduate Studies Coordinator for Pharmaceutical Sciences, College of Pharmacy, Room P-103, J. Hillis Miller Health Center.

DOCTOR OF PHARMACY

All professions involved in today's health care system are experiencing radical changes in their methods of providing service and in the philosophy accompanying their professional activities. Pharmacy is no exception. The advances being made in pharmaceutical sciences, the voluminous quantities of new literature concerning drugs, and an increasing awareness of adverse drug reactions, drug interactions, and iatrogenic diseases resulting from drug therapy have created a demand for an individual who possesses a high degree of expertise in the area of drug therapy.

The goal of the University of Florida's program is to develop drug therapy practitioners who will have the knowledge, clinical experience, and communicative skills necessary to respond to these needs and demands of the evolving health care system.

REQUIREMENTS FOR ADMISSION

The Doctor of Pharmacy Program is a two year post-baccalaureate program offered by the College of Pharmacy. Applications are encouraged from qualified individuals from all cultural, racial, religious, and ethnic groups. Applicants will be considered who have completed four years of the five year pharmacy curriculum, or who have been awarded a Bachelor of Science in Pharmacy degree from a college of pharmacy accredited by the American Council on Pharmaceutical Education. Admission to the Doctor of Pharmacy program is a selective process; thus, meeting the minimum requirements for admission does not automatically guarantee acceptance. Due to limitations of faculty and facilities, a quota for admission of new students was established. The quota is currently set at eight new students annually.

Applications must be submitted to the Office of the Registrar, Graduate Admissions Section, University of Florida by January 1st of the year the student plans to enter the June entering class. This office will provide a copy of the completed application to the Office of the Pharm.D. in the College of Pharmacy. All applications received by this date will be carefully reviewed by the Selection Committee.

Letters of recommendation, a curriculum vitae, and a statement of professional goals must be submitted together with the completed application. An interview is required of those applicants meeting the minimum standards of the Selection Committee. The following criteria are used in considering applicants for admission: academic record, letters of recommendation, experience, motivation, and personal interview. Individuals with a strong academic background, a record of active involvement in pharmacy, definite professional goals, and motivation for patient care will be given priority for admission.

Since only one sequence of courses is offered annually, admission of new students is limited to the summer quarter which starts in June. Denied students wishing to re-apply for the following year should notify the Office of Pharm.D., and in addition, request a supplemental application form by writing to the Office of the Registrar, Graduate Admissions. There is no charge for re-applying.

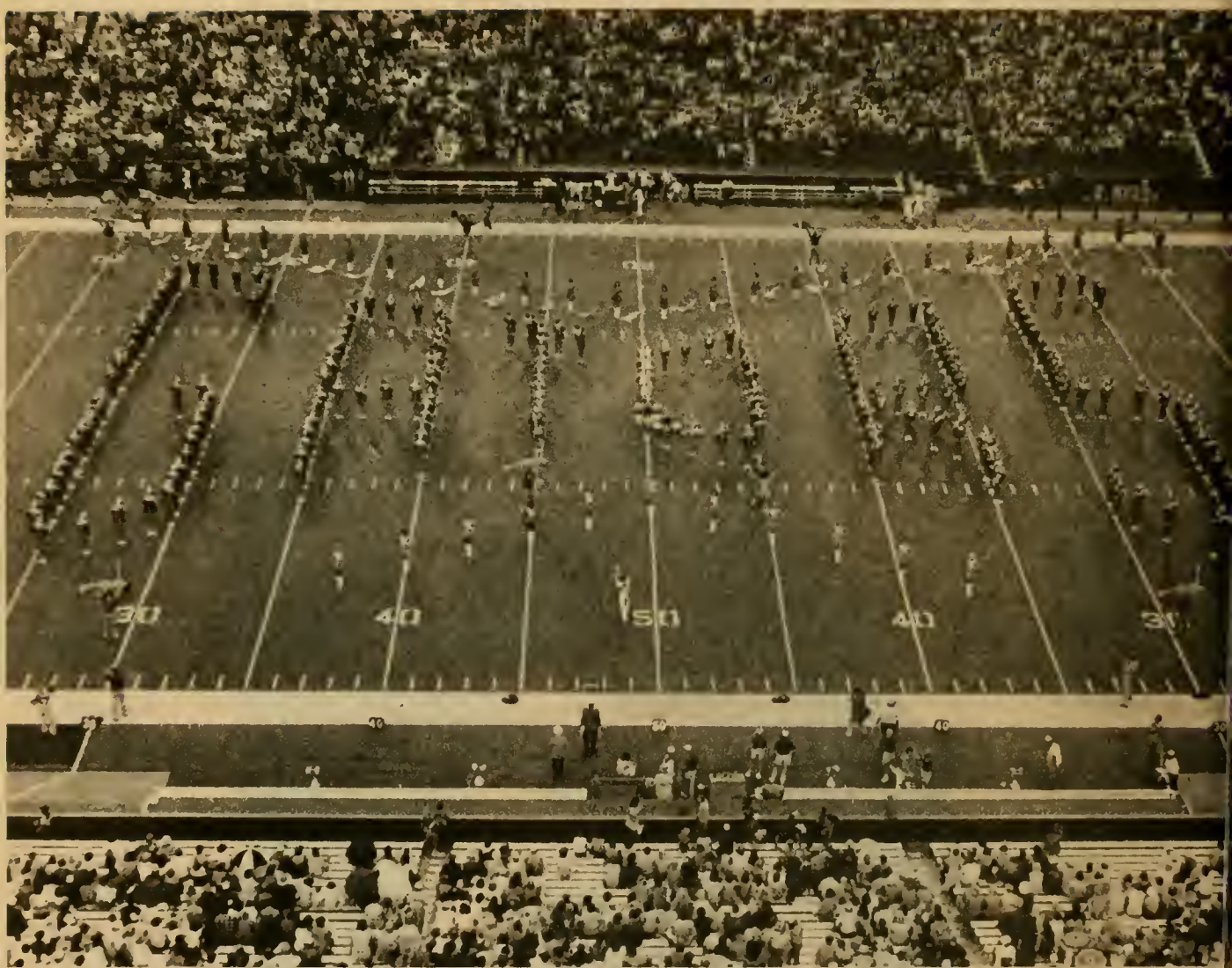
As partial fulfillment of the requirements for the Pharm.D. degree, the student must complete an individual research project by the end of his clinical clerkship. The project must be original, creative and innovative in some area of clinical patient care. The research study must be presented to the student's supervisory committee for approval and must be written in a format suitable for publication.

Further details, information and applications can be obtained by writing to the Director, Doctor of Pharmacy Program, College of Pharmacy, Health Center, University of Florida, Gainesville, Florida 32610.

CURRICULUM

The Doctor of Pharmacy program consists of two years of study. The first year is devoted to didactic course work in which the student is required to take 30 cr. hours of required subjects and 18 cr. hours electives. The electives provide the student with an opportunity to pursue his area of special interest. Numerous electives are available through the Colleges of Pharmacy, Medicine, Nursing, and Health Related Professions.

The second year comprises various fields of clinical experience. This phase of the Pharm.D. Program provides clinical clerkship over 4 quarters or one calendar year. The clinical experiences are arranged on a rotating basis whereby the student participates in various patient care areas, such as: internal medicine, pediatrics, psychiatry, drug information, parenteral nutition, and chronic care/ambulatory patient care. In addition, the student is permitted to select several rotations in patient care areas. The student is supervised by a faculty member in all of the rotational clinical experiences. During these experiences, the student participates and cooperates with physicians and other health professionals.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College of Physical Education, Health and Recreation

PROFESSIONAL PHYSICAL EDUCATION
HEALTH EDUCATION AND SAFETY
RECREATION
GENERAL PHYSICAL EDUCATION

College of Physical Education, Health, and Recreation

GENERAL STATEMENT

The College of Physical Education, Health, and Recreation offers undergraduates and graduate degree curricula as well as other programs of instruction and services through its four departments, namely: Professional Physical Education, Health Education and Safety, Recreation, and General Physical Education.

The requirements of the undergraduate degree curricula are organized on the basis of the Lower Division and the Upper division. Basic requirements of each curriculum available to students in the Lower Division are listed in the University College section of this catalog.

UNDERGRADUATE DEGREES

Courses of study leading to three undergraduate degrees are offered: Bachelor of Science in Physical Education, Bachelor of Science in Health Education, and Bachelor of Science in Recreation.

A student is required to complete (1) one of the curricula offered in this College; (2) all Upper Division courses with a minimum grade point average of 2.0; (3) 196 quarter hours for the four-year period wih an average of 2.0 or higher; and (4) the course requirements in his major field with an average of 2.0 or higher.

In addition to completing the above requirements the student is expected to participate in extracurricular activities. Experience shows that men and women are called on to perform many and varied services in their respective schools and communities. Participation in extracurricular activities while in college contributes substantially to the success of persons entering the profession. Information concerning this expectation may be secured from the student's adviser.

REQUIREMENTS FOR ADMISSION

The University of Florida and the College of Physical Education, Health, and Recreation encourage applications from qualified students from all cultural, racial, religious, and ethnic groups. Listed below are the specific requirements for admission to this college. It should be understood, however, that minimum requirements are given and that admission to this college is a selective process. The satisfaction of minimum requirements does not automatically guarantee admission. A student's total record including educational objectives, pattern of courses previously completed, quality of previous academic record, and test data will all be considered in evaluating an application for admission. Priority in admission will be given to those applicants whose potential on the basis of their total record indicates the greatest likelihood of success in the program requested.

University College Students: To be eligible for admission to the College of Physical Education, Health, and Recreation, a University College student must have:(1) earned at least 96 quarter hours of acceptable college credit with an overall average of "C" or higher on all college level work attempted. (2) completed as many as possible of the lower division courses required for the desired curriculum as indicated in the program for the Freshman and Sophomore years in the University College section of this catalog.

Transfer Students: To be eligible for admission to the College of Physical Education, Health, and Recreation, a transfer student must satisfy the minimum requirements for admission to an Upper Division College that are set forth in the ADMISSIONS Section of this catalog. Additionally, the applicant must satisfy the following specific requirements for admission to the College of Physical Education, Health, and Recreation. The applicant should have completed the courses required for the desired curriculum as indicated in the program for the Freshman and Sophomore years in the University College section of this catalog or their equivalent. The following conditions will serve as a guide in expediting transfer to the College of Physical Education, Health, and Recreation in compliance with the above requirements.

A. Students attending four year colleges, who wish to transfer after two years, should follow a program of general education and preprofessional courses similar to the Basic Curriculum for the Freshman and Sophomore Years for students planning to enter the College of Physical Education, Health, and Recreation.

B. Community College students should:

1. Complete the two-year college parallel program at the community college. This should include completion of:
   a. general education requirements
   b. elective courses which provide introduction to the fields of physical education, health education or recreation
   c. a course in public speaking
   d. courses, if available, which deal with the development of basic skills and provide instruction in organizing and teaching these activities.
   e. skill courses in tennis, golf, swimming, gymnastics if majoring in physical education; tennis, golf, swimming if majoring in recreation; a chemistry course if majoring in health education
2. Become actively involved in extracurricular actitivies in order to develop competencies and to gain experience in a wide variety of activities relating to the professional field of choice.
3. Consider becoming qualified to teach or work in a second field and select elective work in the area.
4. Take 3000 level courses in professional education and professional physical education, health, or recreation when enrolled at the University of Florida.

Provisional Admission: Within space limitations, students who do not meet precisely the admission requirements indicated in the appropriate section above may be granted provisional admission to the College of Physical Education, Health, and Recreation by the Committee on Admissions. The conditions of provisional admission will include specific courses to be completed and minimum grade points to be earned. Provisional status will be removed and the student fully admitted to the College of Physical Education, Health, and Recreation provided the conditions set forth in the provisional admission are fulfilled. Failure to satisfy the conditions of the provisional admission will result in denial of subsequent enrollment in the college.

COUNSELING OF STUDENTS

The College of Physical Education, Health, and Recreation maintains an undergraduate and graduate counseling office. Cumulative records are kept in the office so that any student may receive advice on such matters as (1) selection of courses, (2) participation in extracurricula activities, (3) scholastic problems, and (4) developing desirable qualities of leadership and personality. All students planning to pursue any of the curricula offered by the College of Physical Education, Health, and Recreation should avail themselves of this counseling service. Information about the counseling office can be obtained in Room 214, Florida Gymnasium.

Students are responsible for familiarizing themselves with all information concerning the appropriate degree program.

ADMISSION TO ADVANCED PROFESSIONAL SEQUENCE

Students majoring in Physical Education or Health Education are required to take specified courses in the College of

Education. The catalog description of programs in the College of Education should be consulted for prerequisites for admission to the advanced professional course sequence in that college. Clearance for permission to register in these courses is administered by the undergraduate academic counselors in Physical Education and Health Education.

TEACHERS' CERTIFICATES

Certification to teach in the schools of Florida is granted by the State Department of Education under regulations established by the State Board of Education. These regulations are fully described in a bulletin issued by the State Department of Education. A copy of this bulletin is available to any student in the office of his adviser. The student is expected to familiarize himself with these requirements.

STUDENT TEACHING AND INTERNSHIP PROGRAM

Students enrolled in Physical Education, Health Education, and Recreation curricula offered in this College are required to register for the appropriate student teaching or internship program for one term during their Senior year. They will be expected to live in the community in which they serve their internship or student teaching.

RESEARCH

In order to better carry out its role in research, the College of Physical Education, Health, and Recreation conducts, coordinates, and encourages research through a research committee. This committee is ordinarily composed of faculty members actively engaged in research activities. The facilities of the research laboratory are available to faculty members as well as to graduate and undergraduate students in the College. Further information may be obtained from the Chairman, Research Committee.

GENERAL REGULATIONS

University Student Regulations: The STUDENT REGULATIONS section of this Catalog contains information of essential importance to all students. The regulations cover such points as (1) degree and graduation regulations; (2) maximum and minimum loads; (3) grades and averages; (4) probation, suspension and exclusion for academic reasons; (5) withdrawals; (6) absences or unsatisfactory work; (7) classification of students; and (8) petitions and appeals.

Student Responsibility: The student must assume full responsibility for registering for the proper courses and for fulfilling all requirements for his degree. The faculty and the student's adviser will assist and counsel, but the student must take the initiative and assume responsibility for meeting all requirements.

The student's program of studies is subject to the approval of his adviser and the department chairman of the student's major field. A student majoring in Physical Education or Recreation who has skill deficiencies may be required to take courses to remove the deficiencies.

Each student is responsible for completing all courses for which he is registered. Courses may be dropped or changed without penalty only through the approval of the student's adviser.

Seniors must file formal application for degree in the Office of the Registrar no later than the deadline date published in the Calendar.

College Probation: Students who fall below a 2.0 average are placed on College Probation. If normal progress toward graduation is not accomplished, further registration in the Upper Division of this college may be denied.

Student Petitions: If a student believes that the College regulations work a peculiar hardship or injustice in his case, he may petition for waiver of the regulation involved. Information on the procedure to be followed in submitting such petitions may be secured from the student's adviser.

Uniforms: In order to participate in sports activities required in the professional program, all physical education major students will be required to purchase a prescribed uniform. Men's and women's uniforms have the emblem which designates the College of Physical Education, Health, and Recreation classification. Uniforms may be purchased from the campus bookstore. Uniform policies are subject to review and are approved by students and faculty before changes are made.

Expenditures: The student is referred to the section in this catalog under *Fees* for information about expenses. In addition, some courses require experience away from the campus. For such courses, the student will need to make provisions for transportation. One course PEO 2031 Recreational Sports, requires payment of a nominal fee for use of bowling facilities. Students must provide their uniforms, including swimming suits, for activity courses.

GRADUATION WITH HONORS AND HIGH HONORS

Determination of eligible candidates for Honors or High Honors is the responsibility of the College Undergraduate Committee. Eligibility is based on grade point average in the Upper Division, but also requires recommendation by the college faculty.

Graduation with Honors — To graduate with Honors, a student must have earned a grade point average of 3.4 or higher for all Upper Division courses.

Graduation with High Honors — To graduate with High Honors, a student must have earned a grade point average of 3.7 or higher for all Upper Division courses.

The student must have completed at least 96 quarter hours of credit work in residence at the University of Florida, including a minimum of 80 quarter hours of letter grade courses carrying Upper Division credit, exclusive of internship and student teaching. Credit earned through correspondence or extension courses shall not be included in computing grade point averages.

GRADUATE DEGREES

Courses are offered by this College in the Graduate School leading to the degree of Master of Physical Education, the degree of Master of Arts in Physical Education, the degree of Master of Health Education, and the degree of Master of Arts in Health Education. Admission and degree requirements for graduates of accredited institutions are described in the Graduate School catalog.

PROFESSIONAL PHYSICAL EDUCATION

CURRICULUM IN PROFESSIONAL PHYSICAL EDUCATION

Admission: Students majoring in any degree program in physical education must complete both the general education requirements for physical education majors specified in the University College section of this catalog and the Professional Physical Education CORE described below:

Students are required to obtain an indepth physical examination by the end of the first quarter of enrollment in the Professional Physical Education Program. An EKG is to be included as recommended by a physician.

GENERAL EDUCATION REQUIREMENTS

	Credits
American Institutions (9-11 hrs.)	
POS 2112 American State and Local Government or POS 2041 American Federal Government	3-5

SSI American Institutions 6
Behavioral Studies (4 hrs.)
PSY 2013 General Psychology
or PCO 3714 Personal Growth 4
Biological Science (11 hrs.)
APB 2153 The Biological Sciences - Cell and
Organism Biology 3
PET 3320 Applied Human Anatomy 4
PET 3350 Applied Human Physiology 4
English (11 hrs.)
ENC 1102 Expository Writing 3
ENG 1200 Introduction to Fiction, ENG 1400
Introduction to Drama, or ENG 1710 Introduction
to Poetry 8
Health Education (7 hrs.)
HES 2000 Personal and Family Health 4
HES 2400 First Aid and Personal Safety 3
Humanities (12 hrs.)
HUM 2210 Western Humanities 4
HUM 2230 Western Humanities 4
HUM 2250 Western Humanities 4
Mathematics (4 hrs.)
MGF 1113 Fundamental Mathematics 4
Physical Education (2 hrs.)
PEM 1100 Basic Concepts 2
Physical Sciences (10-11 hrs.)
ISC 2400 Fundamentals of Physical Science
or PHY 2004 Applied Physics I or PHY 2050
2050L General Physics I/Lab 4-5
ISC 2401 Fundamentals of Physical Science 3
ISC 2402 Fundamentals of Physical Science 3
Speech (4-5 hrs.)
SPC 3601 Public Speaking or SPC 2300
Introduction to Speech Communication 4-5

Total 74-78

GENERAL PROFESSIONAL PHYSICAL EDUCATION CORE

	Credits
PET 3000 Foundations of Physical Education	3
PET 3127 American Physical Education and Sport	3
PET 3340C Kinesiology of Motor Skills	3
PET 3360C Physiology of Exercise and Training	3
PET 3230C Skill Acquisition and Motor Development	3
*PET 3590C Professional Seminar in Physical Education	1
PET 3640C Physical Education for the Handicapped	3
PET 3940C Introductiory Field Experiences in Physical Education I, K-5	1
PET 3944C Introductory Field Experiences in Physical Education II, 6-12	1
PET 4510C Measurement and Evaluation with Lab	3
PET 4622C Prevention and Care of Athletic Injuries	3
*PEP 2131C Weight Training and Conditioning	2
Total	29

*To be taken as co-requisites.

I. Degree Programs in Professional Physical Education (with Teacher Certification)

This program will lead to the Degree Bachelor of Science in Physical Education with teacher certification. The student may choose to utilize this program as a foundation for graduate study in the areas of administration, curriculum and instruction. To obtain this degree the student must complete the General Education Requirements. In addition the student must complete the General Professional Physical Education CORE, the Professional Teaching CORE and the Professional Education CORE. The student must also select either the Elementary School or the Secondary School Specialization.

PROFESSIONAL PHYSICAL EDUCATION TEACHING CORE

	Credits
DAE 2320C Modern Dance Teaching Methods	3
PEO 1011C Softball and Flag Football Teaching Methods	2
PEO 1511C Soccer and Related Sports Teaching Methods	2
*PEO 1321C Volleyball Teaching Methods	1
*PEO 1521C Team Handball Teaching Methods	1
PEO 2032C Recreational Activities II Teaching Methods	2
PEO 2341C Tennis Teaching Methods	2
PEO 3621C Basketball Teaching Methods	2
PEP 1301C Track and Field Teaching Methods	2
PEP 2201C Gymnastics Teaching Methods	2
PEQ 1121C Swimming Teaching Methods	3
PET 4415 Administration of Physical Education	4
PEP 4442C Physical Education in the Secondary School	5
Total	31

*To be taken as Co-requisites.

PROFESSIONAL EDUCATION CORE

	Credits
EDE 4203 The Elementary School Today	4
EDF 3110 Human Growth and Development	5
EDF 3604 Social Foundation of Education	5
ESE 4011 The Secondary School Today	5
ESE 4443 Student Teaching	16
Total	35

A. Elementary School Specialization

This curriculum is designed to prepare specialists in Elementary School Physical Education with certification for grades K-12. Courses required in this specialization are:

	Credits
DAE 3370C Rhythmic Activities for Elementary School Children	3
PEO 3041C Games and Sports for Elementary School Children	3
PEP 3203C Educational Gymnastics for Elementary School Children	3
PET 3430C Physical Education Program in the Elementary School	3
PET 4941C Field Experience in Elementary School Physical Education	3
Electives in Professional Physical Education	1
Total	16

B. Secondary School Specialization

This curriculum is designed to prepare specialists in Middle School and High School Physical Education with certification in grades K-12. Courses required in this specialization are:

DAE 2360C Folk and Social Dance	3
PEO 2031C Recreation Activities 1 Teaching Methods	2
PEO 2121C Golf Teaching Methods	2
*PEO 2561C Field Hockey Teaching Methods	(2)
PEO 3213C Officiating III	1
PEO 3323C Officiating I	1
PEO 3623C Officiating II	1
*PEP 2401C Martial Arts Teaching Methods	(2)
*PEP 2421C Wrestling Teaching Methods	(2)
PET 3461C Physical Education in the Elementary School	3
Total	15

*Student selects one of these three courses.

II. Degree Program in Professional Physical Education

These programs will lead to the Degree Bachelor of Science in Physical Education without teacher certification. To obtain this degree the student must complete the General Education Requirements. In addition students must complete the General Professional Physical Education CORE and the Professional Physical Education CORE. The student must also select either the Applied Physical Education Careers Program or the Scientific Graduate School Preparatory Program.

PROFESSIONAL PHYSICAL EDUCATION CORE

	Credits
DAE 2320C Modern Dance Teaching Methods	3
PEO 1011C Softball and Flag Football Teaching Methods	2
PEO 1511C Soccer and Related Sports Teaching Methods	2
*PEO 1321C Volleyball Teaching Methods	1
*PEO 1521C Team Handball Teaching Methods	1
PEO 2032C Recreational Activities II Teaching Methods	2
PEO 2341C Tennis Teaching Methods	2
PEO 3621C Basketball Teaching Methods	2
PEP 1301C Track and Field Teaching Methods	2
PEP 2201C Gymnastics Teaching Methods	2
PEQ 1121C Swimming Teaching Methods	3
PET 4415 Administration of Physical	4
PET 4948C Practicum in Physical Education	16
Electives in Professional Physical Education	8
Total	51

*To be taken as Co-requisites.

Alternatives to the CORE courses listed above must be approved by an academic advisor or the Department Chairperson.

A. Applied Physical Education Careers Program

This program is designed to prepare students as Physical Fitness Specialists, Athletic Trainers, Exercise Testing Technicians, Exceptional Child Physical Education Specialists and Pre-School and Post-School Physical Education Specialists. Students pursuing this track must fulfill the following requirements:

A minimum of 44 elective hours selected from courses offered at the University of Florida. These courses must be selected with the approval of a faculty advisor and the Chairperson of the Department. At least 24 of these hours must be directly related to the career program the student is pursuing.

B. Scientific Graduate School Preparatory Program

This program is designed to prepare students for study toward an advanced degree in the scientific foundations of Physical Education. Courses required in this specialization are:

	Credits
CHM 2040 Introductory General Chemistry	4
CHM 2041C General Chemistry	4
COP 3110 Introduction to Computer Programming	2
COP 3212 Computer Programming Using FORTRAN	2
ENV 3003 Environmental Quality and Man	4
*MAC 1131 Self-paced Algebra and Trigonometry	(3)
*MAC 1132 Algebra and Trigonometry	(5)
*MAT 1033 Basic Algebra	(2)
PHY 2050 General Physics	4
PHY 2050L Laboratory for Physics	1
PSY 2013 General Psychology	4
STA 3023 Introduction to Statistics I	4
Total	34

*Students must select MAT 1033 and MAC 1131 or MAC 1132 for a total of 5 hours of credit.

The student must select 14 elective hours from courses offered at the University of Florida with the approval of a faculty advisor. It is suggested that these courses be concentrated in a specific area. LIS 2001 (Use of Books and Libraries, 2 credits) is strongly recommended.

III. Non-Degree Concentrations

The Department of Professional Physical Education offers areas of concentration in Coaching and Dance. These concentrations are non-degree programs.

A. Coaching Concentration

This concentration is designed to prepare students from any discipline for full or part time careers in coaching or athletic administration. Consult an academic advisor or the Department Chairperson or prerequisities in selected courses. The student is required to complete the following courses:

	Credits
PEO 3213C Officiating III, or PEO 3323C Officiating I, or PEO 3623C Officiating II	1
PET 3212 Foundations and Principles of Coaching	3
PET 3340C Kinesiology of Motor Skills	3
PET 3360C Physiology of Exercise and Training	3
PET 3230C Skill Acquisition and Motor Development	3
PET 4416 Administration of Athletics	3
PET 4622C Prevention and Care of Athletic Injuries	3
PET 4949C Practicum in Coaching (may be repeated for a total of 6 hours)	2-6
*Elective in Coaching (see below)	4
Total	25-29

*Coaching Electives. The student must select 4 credits from the following:

PEO 3124C Coaching Golf	2
PEO 3214C Coaching Softball	2
PEO 3219C Coaching Baseball	2
PEO 3324C Coaching Volleyball	2
PEO 3344C Coaching Tennis	2
PEO 3514C Coaching Soccer	2
PEO 3624C Coaching Basketball	2
PEO 3644C Coaching Football	2
PEP 3204C Coaching Gymnastics	2
PEP 3304C Coaching Track and Field	2
PEP 3424C Coaching Wrestling	2
#PEQ 3124C Coaching Swimming	1
#PEQ 3154C Coaching Diving	1

#To be taken as corequisites

B. Dance Concentration

The Departments of Professional Physical Education and Theatre offer an area of concentration in dance which is available to students majoring in any discipline. The student is required to complete 9-12 hours in courses related to technique and performance. A minimum of four quarters of dance technique at the appropriate level must be chosen from the following:

	Credits
*DAA 2101 Modern Dance II	2
*DAA 2200 Ballet I	2
*DAA 3102 Modern Dance III	3
*DAA 4103 Modern Dance IV	3

The student is expected to participate in the University of Florida Dance Company for at least one quarter and to perform in a minimum of one minor production. Credit for these may be obtained through registration in the following:

	Credits
DAA 3102 Modern Dance III, or DAA 4103 Modern Dance IV	3

In addition, the student is required to complete the following courses:

	Credits
DAE 2320C Modern Dance Teaching Methods	3
DAA 3140 Dance Composition	2
*DAN 3500 Dance Production	1-3
DAN 4110 Seminar in Dance History and Philosophy	4
Total	23-25

*May be repeated.

Suggested courses: (6-8 hrs.)

	Credits
ARH 2050 Introduction to Principles and History of Art	3
DAE 2360 Folk and Social Dance	3
DAE 3370 Rhythmic Activities for Elementary School Children	3
MUL 2011 Introduction to Music	4
PET 3320 Applied Human Anatomy	4
PET 3350 Applied Human Physiology	3
PHI 3800 Aesthetics	5

PSY 2013 General Psychology	4
THE 2000 Theatre Appreciation	4

HEALTH EDUCATION AND SAFETY

CURRICULUM IN HEALTH EDUCATION

Completion of this program leads to the Degree Bachelor of Science in Health Education. Opportunities are available for concentration in one or more areas in health education, each of which constitutes a Departmental Certificate Program.

The curiculum is designed to prepare students for a variety of health career opportunities, according to the area(s) of concentration selected. Students are prepared to serve as health education specialists in existing and emerging positions with governmental, municipal, industrial and commercial, pharmaceutical, voluntary health, and health care delivery organizations. Completion of any concentration area with inclusion of a teaching credential also prepares students to serve as teachers of health and related life sciences in schools and colleges; and as coordinators of school health programs. Many different bases of employment for health educators require completion of the teaching credential.

All students must complete the General Education CORE (60 cr.), and the Professional Health Education CORE (98 cr.), both of which are outlined below.

GENERAL EDUCATION CORE

	Credits
ENG English	11
MAC or MGF Mathematics	4
SSI Social Sciences	9
HUM Humanities	12
PSC Physical Sciences	4
CHM Chemistry	4
APB Biological Sciences	10
SPC Oral Communication	4
PEM Basic Concepts of Physical Education	2
Total	60

PROFESSIONAL HEALTH EDUCATION CORE

	Credits
APB/PET Biological Sciences	11
Elective Health Sciences	11
HES Health Content and Program	41
HES Elective Health Content	9
EDF Professional Education	10
*HES/ESE Student Teaching/Community Health Education Internship	16
Total	98

*Allowed according to completion of appropriate concentration area(s).

Concentration Areas

Each student must complete at least one of the concentration area Certificate Programs described in the following paragraphs. Choices may be made from a number of interdisciplinary and Departmental courses. Checklists of recommended and required courses for each concentration area are available from the academic advisers.

I. COMMUNITY HEALTH EDUCATION. Concentration in community health education directed toward special target groups or special health needs and problems of the public. Credits are selected from health sciences dealing with community health (physical, social, and biological), and from the special skills of health education.

II. SCHOOL AND COMMUNITY HEALTH EDUCATION. Concentration in school health as well as community health. A split internship provides practice teaching and public health education internship, to prepare the health educator to teach in schools or to work in community agencies or organizations. This is an NCATE accredited program. Credits are selected from health sciences and from professional education.

III. PATIENT HEALTH EDUCATION. Concentration in health education for patients and their families in health care delivery settings. Credits are selected from aspects of health care, communication in the health care setting, and social factors and issues in health and illness.

IV. ENVIRONMENTAL HEALTH AND SAFETY EDUCATION. Concentration in environmental health education directed toward problems and issues which occur in various settings. Credits are selected from environmental health sciences, and from the special skills of health education.

V. EMERGENCY FIRST AID AND PERSONAL SAFETY. Concentration in kinds of behavior which create emergency situations, and the essential skills for survival. Credits are selected from emergency procedures, preventive techniques, and survival measures.

VI. DRIVER EDUCATION AND PUBLIC SAFETY. Concentration in driver and traffic safety education, and in accident prevention and survival of the public. Credits are selected from driver education, community safety, and survival skills.

VII. COMMUNICATION IN HEALTH EDUCATION. Concentration in techniques and media for reaching the public with health education. Credits are selected from written, oral, and illustrative techniques of communicating with the public.

VIII. HEALTH BEHAVIOR AND HEALTH EDUCATION. Concentration in ways in which individual and societal values influence health behavior. Credits are selected from biological, sociological, and psychological bases of health behavior.

Suggested Sequence of Program Requirements

FRESHMAN YEAR

	Credits
ENC/ENG English	11
SSI Social Sciences	9
APB Biological Sciences	10
PSC Physical Sciences	4
HES 2000 Personal and Family Health	4
PEM 1100 Basic Concepts of Physical Education	2
*Electives for concentration area(s)	8
Total	48

SOPHOMORE YEAR

	Credits
MAC or MGF Mathematics	4
HUM The Humanities	12
CHM Chemistry	4
SPC Oral Communication	4
SOC 2000 Principles of Sociology	4
PSY 2013 General Psychology	4
HES 2001 Community and Environmental Health	4
HES 2400 First Aid and Personal Safety	3
APB 2170/2170L Microbiology and Lab	5
*Electives for concentration area(s)	4
Total	48

*Choices may be made from a number of interdisciplinary courses. See academic advisers for checklist of courses and acceptable substitutes in these concentration areas.

JUNIOR YEAR

	Credits
EDF 3110 Human Growth and Development	5
EDF 3604 Social Foundations of Education	5
HES 3144 Health Education and Medical Terminology	3
HES 3296 Field Expereince in Community Health	4
HES 3301 Elementary School Health Program	4
HES 3431 School and Community Safety Education	3
PET 3320 Applied Human Anatomy	4
PET 3350 Applied Human Physiology	4

*Elective Health Sciences	11
*Electives for concentration area(s)	7
Total	50

SENIOR YEAR

	Credits
HES 4302 Health Education in Secondary Schools	4
HES/ESE Student Teaching/Community Health Education Internship	16
*HES/concentration area electives	30
Total	50

*One or more concentration areas for Health Education must be selected. Choices may be made from a number of interdisciplinary and Departmental courses. See academic advisers for checklist of recommended and required courses in each of the concentration areas.

Sample Suggested Course Sequence For The First Two Years

FRESHMAN YEAR

	Credits
ENC 1102 Expository Writing	3
SSI 2110 Culture and Social Institutions	3
APB 2150 Genetics and Evolution	3
HES 2000 Personal and Family Health	4
PEM 1100 Basic Concepts of Physical Education	2
Total	15
ENG 1200 Introduction to Fiction	4
SSI 2120 Emergence of Economics and Political Institutions	3
APB 2151 Ecology and Behavior	3
PSC 2501 Our Environment	4
*Electives for concentration area(s)	3
Total	17
ENG 1400 Introduction to Drama	4
SSI 2122 Economics and Political Institutions Urban America	3
APB 2152 Cell and Organism Biology	3
APB 2150L Lab in Biological Science	1
*Electives for concentration area(s)	5
Total	16

SOPHOMORE YEAR

	Credits
HUM 2210 Western Humanities	4
MGF or MAC Mathematics	4
HES 2001 Community and Environmental Health	4
SOC 2000 Principles of Sociology	4
Total	16
HUM 2230 Western Humanities	4
CHM Chemistry	4
SPC Oral Communication	4
HES 2400 First Aid and Personal Safety	3
Total	15
HUM 2250 Western Humanities	4
APB 2170 Microbiology	3
APB 2170L Dis. Lab. in Microbiology	2
PSY 2013 General Psychology	4
*Electives for concentration area(s)	4
Total	17

*Choices may be made from a number of interdisciplinary courses. See academic advisers for checklist of recommended and required courses in each of the concentration areas.

RECREATION

I. Curriculum with an emphasis in Public Recreation Leading To a Degree of Bachelor of Science in Recreation

This curriculum is designed to prepare students to become leaders or directors of community recreation, industrial recreation, summer camps, playgrounds, youth organizations, outdoor recreation, or Air Force, Navy and Army recreation activities.

Admission: In addition to general education requirements for recreation majors specified in the University College section of this catalog, students who wish to register for this curriculum should have completed as many as possbile of the following courses while registered in the lower division.

Five activity hour requirements at least one from each of the following groupings:

a. Gymnastics, tumbling, modern dance, or body conditoning

b. Racket sports

c. Combatives

d. Individual sports — golf, archery, bowling or track

e. Team sports — volleyball, basketball, soccer, softball, or field hockey

FRESHMAN YEAR

	Credits
Activity Requirement	3
*ENC English Composition	9
HES 2400 First Aid	3
LIS 2001 Use of Books and Library	2
PEM 1100 Physical Education	2
PEQ 1121 Swimming	3
**POS 2112 American State & Local Government	3
PSC The Physical Sciences	6
SPC 3601 Public Speaking	4
SSI American Institutions	9
Electives	5
Total	49

*Must earn a Grade of "C" or better in all English Composition requirements prior to graduation.

SOPHOMORE YEAR

	Credits
Activity Requirement	2
APB Biological Sciences	9
BES Behavioral Studies	3
BES or PSC Behavior Studies or Physical Science	3
DAE 2360 Folk and Social Dance	3
HUM The Humanities	12
LEI 3507 Special Events — Administration and Programming	3
MGF Fundamental Mathematics	4
**PSY 2013 General Psychology	4
**SOC 2000 Principles of Sociology	4
Total	47

JUNIOR YEAR

	Credits
EDF 3110 Human Growth and Development	5
LEI 3140 Philosophy and History of Recreation, Leisure and Play	3
LEI 3260 Outdoor Recreation	3
LEI 3320 Leadership and Social Recreation	4
LEI 3330 Camp Counseling	4
LEI 3400 Recreation Programs	4
LEI 3508 Sports Activities: Administration and Programming	3
LEI 3540 Management of Recreation Centers	4
LEI 3600 Planning and Maintenance of Leisure Facilities	3
LEI 3921 Field Experiences in Recreation	4
LEI 4880 Evaluation of Leisure Services	3
SOC 2020, 3001, or 3310	4
Electives	6
Total	50

SENIOR YEAR

	Credits
ART 3100 Crafts	4
ECO 2013 Basic Economics 1 or MAR 3023	5
ENC 3351 Business Communications	4
LEI 4500 Administration of Recreation	5
LEI 4700 Recreation for Special Community Groups	5
LEI 4940 Internship	16
MUY 3601 Music	4
Electives	7
Total	50

**May be taken as part of the appropriate general education requirement.

II. Curriculum with an emphasis in Therapeutic Recreation Leading to a Degree of Bachelor of Science in Recreation.

This curriculum is designed to prepare studens to become leaders or directors of hospital recreation, recreation for the aged, recreation for deviant persons, and for other exceptional groups.

Admission: To register for the Junior Year curriculum students must have completed the requirements as listed under University College for the freshman and sophomore year in this curriculum.

FRESHMAN YEAR

	Credits
*ENC-English Compositon	9
HES 2400-First Aid	3
PEM 1100 Physical Education	2
PEL 1121 Swimming	3
PSC The Physical Sciences	6
PSY 2013 General Psychology	4
SPC 3601 Public Speaking	4
SSI American Institutions	9
Electives	7
Total	47

*Must earn a Grade of "C" or better in all English Composition requirements prior to graduation.

SOPHOMORE YEAR

	Credits
APB Biological Sciences	9
BES 2132 Decision Making	3
DAE 2360 Folk and Social Dance	3
HES 2000 Individual and Family Health	4
HUM The Humanities	12
LEI 3330 Camp Counseling	4
LEI 3507 Special Events	3
MGI Fundamental Math	4
SOC 2000 Principles of Sociology	4
Electives	3
Total	49

JUNIOR YEAR

	Credits
ART 3100 Crafts	4
EDF 3110 Human Growth and Development	5
LEI 3140 Philosophy and History of Recreation, Leisure and Play	3
LEI 3320 Leadership and Social Recreation	4
LEI 3400 Recreation Programs	4
LEI 3540 Management of Recreation Center	4
LEI 3921 Field Experiences in Recreation	4
LEI 4700 Recreation for Special Community Groups	5
PET 3320C Applied Anatomy	4
PET 3640C Adapted Physical Education	3
PPE 3004 Psychology of Personality	4
Electives	6
Total	50

SENIOR YEAR

	Credits
EAB 3002 Introduction to Behavioral Analysis	4
LEI 4500 Administration of Recreation	5
LEI 4711 Program Planning and Evaluation in Therapeutic Recreation	4
LEI 4760 Leisure, Recreation, and The Older Adult	4
LEI 4770 Leisure Services for the Socially Deviant	5
LEI 4880 Evaluation of Leisure Services	4
LEI 4940 Internship	16
MUY 3601 Music in the Field of Recreation	4
Electives	4
Total	50

GENERAL PHYSICAL EDUCATION

THE UNIVERSITY REQUIREMENT

Students who enter the University as a Freshman or Sophomore are required to register and participate satisfactorily in Basic Concepts of Physical Education (PEM 1100). This program provides for a better understanding of physical health and its relation to total health. It is felt that through this course students will acquire knowledge and insights necessary for the development of a personal fitness program and competencies necessary for the wise selection of future recreation and leisure pursuits. Students should take the course during their first quarter of attendance at the University of Florida in the lower division, and it may be taken with an S/U option.

The Adapted Program

Students with physical limitations or deviations who are designated by the Department of Student Health, will be assigned to an activity commensurate with their physical limitations.

The Elective Program

Students who have completed the University requirement are eligible to participate in the elective program. These courses are available as approved by the appropriate Dean or his representative. Students may elect to take any course in physical education under the satisfactory-unsatisfactory option.

The Aquatic Specialist Program

Because of the demonstrated need for aquatic specialists in Florida, the Department of General Physical Education has initiated an Aquatic Specialist Certification program. Successful candidates will be issued a certificate and card upon completion of the competency based program. Proof of competency may be substituted in lieu of academic credit.

Course	*Credit*
PEN 2113 Advanced Life Saving (ARC)	2
*PEQ 2115 Water Safety Instructor (ARC)	3
*PEQ 3109 Aquatic Management	4
*HES 2400 First Aid (ARC Standard)	3
(Three Courses Required)	
PEN 1251 Canoeing	1
PEN 2231 Sailing	2
PEN 1135 Skin and Scuba Diving	3
PEN 2141 Synchronized Swimming	1
PEN 1151 Springboard Diving	1
PEQ 2126 Instructors of Swimming for the Handicapped	3
(One Course Required)	
*PEQ 3124 Coaching Swimming and Diving	2
*PEQ 3141 Synchronized Swimming	2
Total Credit Hours	15-18

*Required Courses

College of Veterinary Medicine

The College of Veterinary Medicine, newest of six colleges which constitute the J. Hillis Miller Health Center, was authorized by the Florida Legislature in 1965. In 1971, following the appointment of a Dean, an active planning program for the college was initiated in cooperation with an existing university committee. Construction of the Veterinary Medical Teaching Hospital commenced in the Spring of 1975 and of the Basic Science Building in December, 1975; both buildings were completed in the Fall of 1977. Forty students were admitted to the first entering class (1976); since then eighty students have been admitted each September.

THE PROFESSIONAL COLLEGE

Florida's College of Veterinary Medicine is concerned with the total health of all members of the animal kingdom, including man. Today's society expects the modern veterinarian to serve the needs of the public in a variety of significant ways. A few examples are: the practice of preventive medicine in relation to both human and animal health, solution of agricultural and wildlife problems, humane care of companion animals, research on diseases of animals, provision of wholesome food, etc. Therefore, the College of Veterinary Medicine offers unlimited opportunity for young men and women interested in medicine and the well being of animals.

GOALS

Basic goals of the new college are:

1. To educate the veterinarian trained for specific needs of Florida. Elective educational tracks include: comparative medicine, food animal medicine, epidemiology and public health, laboratory animal medicine, aquatic medicine, environmental medicine, equine medicine, urban medicine, and general veterinary practice.

2. To perform research on the devastating subtropical animal diseases that must be controlled in order to provide wholesome food for our nation and the developing countries.

3. To provide a biomedical investigational resource of animal disease models with human counterparts. This referral center includes metabolic and infectious diseases.

4. To provide a Veterinary Medical Center necessary for the training of interns, residents and graduate students, and for continuing education of practitioners.

5. to provide an active referral and extension program designed for the veterinary medical profession, state and federal agricultural and public health agencies, and consumers of food and health services.

MEANS TO THE GOALS

The design of the new college curriculum identifies the expanding horizons of the ever increasing domain of veterinary medicine. The curriculum provides for a 12 quarter program consisting of a core curriculum and an elective track. The core will provide the body of knowledge and the skills that are common to all veterinarians. It will encompass the first 10 quarters and although the first 8 quarters will relate primarily to the basic medical sciences, students will be introduced to physical diagnosis, radiology, and clinical problems as early as the first quarter of the first year. The core will also include experience in each of the clinical areas (clerkships) as well as provide a sound foundation in the basic sciences. The elective tracks will permit the student to study in depth those aspects of both basic and clinical veterinary medical science which are most relevant to the individual's interest and needs.

Three phases of study within the veterinary medical curriculum are conceptually based on the study of the normal animal (Phase I), the study of disease processes and therapy (Phase II), and clinical applications (Phase III). Phase I and Phase II are organized on an organ system basis, each system is considered in turn, an approach that lends itself to the concept of comparative medicine. Phase I occupies the first three quarters of the curriculum while Phase II extends into the second quarter of the third year. After 8 quarters of study, the student will enter rotations through the clinical clerkships. The clinical experience consists of required or core clerkships and elective tracks.

PRE-PROFESSIONAL COURSE REQUIREMENTS

All applicants to the professional curriculum must present a minimum of 120 quarter hours (80 semester hours) of college-level course work, exclusive of courses in physical education and military training. Credit for the College-Level examination Program (CLEP) is acceptable at the level prescribed by the University of Florida. (Pre-Veterinary students should seek appropriate pre-professional advisement at their respective accredited institutions.)

a. Biology — a minimum of 18 quarter credits including Animal Biology or Zoology (lecture and laboratory); Genetics; and Microbiology (lecture and laboratory).

b. Chemistry — a minimum of 27 quarter credits including Inorganic Chemistry (general and qualitative), lecture and laboratory; Organic Chemistry, lecture and laboratory; and Quantitative Analysis.

c. Physics — a minimum of 10 quarter credits, lecture and laboratory.

d. Mathematics — a minimum of 5 quarter credits of Calculus.

e. Animal Science — a minimum of 10 quarter credits, including Introduction to Animal Science and Animal Nutrition.

f. Humanities — a minimum of 12 quarter credits.

g. Social Science — a minimum of 9 quarter credits.

h. English — a minimum of 9 quarter credits, including one course in English composition.

i. Electives — variable number to bring total to 120 quarter credits; a course in Biochemistry strongly recommended.

Minor variations in quarter credits will be accepted. The applicant must complete these courses by the end of the Spring quarter in the year of application. The College of Veterinary Medicine reserves the right to waive any of these requirements in exceptional cases. The Graduate Record Examination's Aptitude Test (GRE) will be required of all applicants.

BASIS FOR SELECTION

Selection for the College of Veterinary Medicine is made by the Dean based on recommendation of the Faculty Committee on Admissions using the following criteria as the basis for selection.

1) Residency — Florida residents.

2) Academic Performance — Evidence of Superior scholastic achievement.

3) GRE Scores — Graduate Record Examinations Aptitude Test.

4) Background and Experience — Knowledge of the veterinary medical profession. Some type of animal care experience is highly desirable.

5) Letters of Reference — Evaluation of character and potential of applicant as a future Veterinarian.

6) Extra-curricular Activities of Applicant — Achievements, leadership ability, and participation in community activities.

7) Communicative Skill — A brief statement from applicant concerning reasons for seeking admission to the College of Veterinary Medicine.

8) Personal Interview.

APPLICANT INFORMATION

Applicants will be limited to residents of Florida. Pre-veterinary requirements may be completed at any accredited 2 or 4-year college or university offering courses of content similar to those described in the University Record of the University of Florida, Gainesville. This study plan is designed to provide the educational basis that future veterinarians must have to satisfactorily meet the demands of the professional curriculum.

Admission to the College of Veterinary Medicine will be granted only for the fall quarter of each school year and only on a full-time basis. A prescribed number of student spaces is planned for each class, and a formal application with supporting credentials will be required for each student. The Faculty Committee on Admissions will be responsible for evaluating applications and recommending to the Dean the candidates for the entering class in the professional curriculum. All pre-professional requirements must be completed by the end of the spring quarter of the academic year in which application is made. Students reapplying must submit a new application for each application period. It will be the policy of the College not to admit students who have been dismissed by other schools of veterinary medicine.

Further detailed information may be obtained from the Office of the Dean for Student Services, College of Veterinary Medicine, University of Florida, Gainesville, 32610.

Division of Military Science

The University of Florida offers instruction in the Military Sciences as an integral part of its curriculum. The Departments of the Army, Navy, and Air Force each maintain a Reserve Officers Training Corps (ROTC) and provide staffs of military personnel for the instruction and administration of cadets and midshipmen.

ARMY BASIC COURSE, NAVY BASIC COURSE, AND AIR FORCE GENERAL MILITARY EDUCATION PROGRAM

The Army and Navy Basic courses and the Air Force General Military Course include six quarters of instruction. Non-U.S. citizens must receive departmental approval before enrollment.

Cadets and midshipmen are issued uniforms and textbooks by their respective service and are held financially responsible for the care of such property and for its prompt return when directed.

STATUS OF STUDENTS WHO HAVE HAD MILITARY TRAINING AT OTHER SCHOOLS

Students transferring from other college level institutions with ROTC units are allowed credit for military studies completed at such institutions, up to the amount allowed by the institution from which the transfer is made, provided such credit does not exceed six quarter hours for the Army or the Air Force General Military Course. Up to seventeen quarter hours may be granted for the Navy basic course. A cadet who transfers to another institution where an ROTC detachment of the same service is located may transfer his membership in the Army or Navy Advanced Course or the Air Force Professional Officer Course to that detachment. The eligibility for admission of such students to Military Science, Naval Science, and Aerospace Studies courses at the University of Florida is determined by the Professor of Military Science, Professor of Naval Science, or the Professor of Aerospace Studies as appropriate.

MILITARY COMMITMENT UPON COURSE COMPLETION

Non-Scholarship students enrolled in Army, Air Force, or Navy ROTC incur no military commitment during their first two years (Basic Course) in the program. Upon selection by the respective departments, students completing the basic course or its equivalent may enter the Advanced Course (junior/senior ROTC). Such students execute a contract at time of entry which obligates them upon successful completion of the Advanced Course and commissioning to serve on active duty for a period of not less than three years for Army, three years for Navy, and four years for Air Force, subject to orders of the appropriate service secretary and to continue as a member of a Regular or Reserve component of that service until, at the earliest the sixth, and not later than the eighth anniversary of the receipt of commission. ROTC Scholarship students incur an identical military commitment except they must serve four years on active duty.

Army ROTC Students may also elect to participate in the guaranteed Reserve option, whereby they are not required to serve on active duty. After commissioning and completion of their basic branch school they are then assigned to an Army Reserve or National Guard Unit to fulfill the remainder of their eight year obligation.

ROTC SCHOLARSHIP PROGRAM

The ROTC Vitalization Act of 1964 provides for College Scholarships to ROTC cadets and midshipmen. Those receiving scholarships are selected on a competitive basis. The scholarships pay the cost of tuition, books, fees, supplies and equipment, plus a monthly subsistence allowance of $100. Scholarships are offered for one, two, three, and four years.

UNIFORMS

The ROTC uniforms are identical to the regulation uniform except for insignia. Cadets and midshipmen are required to wear the uniform during drill periods.

Newly entering students in the Army and Air Force ROTC are issued required uniforms and texts from supply. The uniforms and texts remain the property of the ROTC and are returned to supply during quarters of nonattendance, transfer to another institution, or upon completion of the prescribed course of instruction.

Navy uniforms are issued to midshipmen in two ways: Some uniforms are permanent issue so long as satisfactory NROTC participation is carried out; other uniforms are issued especially for special events such as Summer cruises and must be returned.

ARMY ADVANCED COURSE

The general objective of the course of instruction is to provide junior officers who by their education, training, and inherent qualities are suitable for continued development as officers in the United States Army. The aim is to provide a basic military education, and, in conjunction with other college disciplines, to develop individual character and attributes essential to an officer.

The Army Advanced Course includes six quarters of instruction at the University and six weeks Summer camp at a military installation, which normally is attended by the student at the end of his first year's Advanced Course work. Each student applicant for the Advanced Course must have completed the Army ROTC Basic Course, attended a basic ROTC Summer camp of six weeks in lieu thereof, or have had previous military training acceptable as a substitute therefor. Cadets who have successfully completed three years of Junior ROTC may be granted a waiver of the Basic Course upon approval of the PMS. Final selection of students for the Advanced Course is made by the President of the University and the Professor of Military Science.

Students are issued regulation Army uniforms and textbooks. The uniforms and text remain the property of the ROTC and are returned to supply when the student receives his degree and commission. Each student receives from the United States Government a monetary subsistence allowance, presently $100.00 per month, which is paid monthly during the period of enrollment in the Advanced Course for not more than a total of 20 months. Students are paid travel to and from the six-weeks Summer camp; while at camp they are provided quarters, rations and one-half of a second lieutenant's pay per month. All students take the General Military Science course. Upon the student's successful completion of the Advanced Course and graduation, the student is commissioned a second lieutenant in the United States Army Reserve in a branch of the Army as determined by a consideration of his choice, his academic major, his aptitude and the needs of the Army.

Outstanding Advanced Course students are designated "Distinguished Military Students" and upon graduation from the University are designated "Distinguished Military Graduates." A Distinguished Military Student may apply for appointment as a second lieutenant in the Regular Army at any time prior to his designation as "Distinguished Military Graduate." A number of University of Florida graduates accept Regular Army appointments each year.

NAVAL RESERVE OFFICERS TRAINING CORPS

The NROTC Unit was established at the University of Florida in 1972 to provide a source from which qualified men and women officers could be obtained for the Navy and Marine Corps. Depending upon which part of the program students are affiliated with, they are tendered commissions in either the Regular Navy, the Naval Reserve, the Marine Corps or the Marine Corps Reserve, and are immediately placed on active duty.

The program consists of a Naval Science Course and a no-credit two-hour leadership laboratory each quarter for four academic years. Shipboard engineering systems, seapower and maritime symposia, terrestrial and celestial navigation, and management and leadership are included in the curriculum. Training cruises, usually of six weeks duration with pay during the summer, are also part of the program.

Students may participate with or without a scholarship. Those who have scholarships have their tuition, books, fees, and some other expenses paid by the Navy. They also receive $100 per month for a maximum of 40 months, during the academic years. Non-scholarship students, or College Program students, do not receive these emoluments. However, they do receive Naval Science textbooks and uniforms free and, in the Junior and Senior years, receive $100 per month during the academic year (up to 20 months.) Scholarships are usually awarded after national competition among high school Seniors. However, College Program students can be awarded scholarships for a period of less than four years and they actually have an advantage over high school students. Scholarship students participate in three Summer cruises; the College Program students become involved in only one cruise, between their Junior and Senior years. There are also Two-Year Scholarship Programs and a Two-Year College Program available. Application to enter these programs should be made by Spring Quarter of the sophomore year; or if in a five-year curriculum, by Spring Quarter of the Junior year.

Navy option graduates of the NROTC program will generally receive advanced training in one of the following areas: Nuclear Propulsion, Naval Aviation, or Surface Warfare. Marine Corps option graduates receive a six-month professional course before further assignment. The program also provides for a limited number of graduates to enter the Civil Engineering Supply Corps.

During the first two years of the program, there are no obligations. However, with commencement of the Junior year students are obligated to serve on active duty after completing the program and receiving their baccalaureate degree. For scholarship students the obligation is four years, unless, of course, special programs are undertaken.

AIR FORCE OFFICER TRAINING CORPS

The Department of Air Force Aerospace Studies was established to select and prepare students, through a permanent program of Instruction, to serve as officers in the Regular and Reserve components of the United States Air Force. The curriculum emphasizes the uniformly high level of military understanding and knowledge required of all Air Force officers.

AFROTC training is divided into two phases: The first two years constitute the General Military Course; the last two the Professional Officer Course. The Department offers a four-year and a two-year program. Each of these options leads to a commission in the Air Force. The four-year program requires completion of both the General Military Course, a four week field training course and a Professional Officer Course. Students with prior active military service or previous training at Military schools may, on the basis of their experience, receive a waiver for portions of the General Military Course. The two-year program requires, as a substitute for the General Milltary course, completion of a six-week Field Training Course at an Air Force Base prior to formal enrollment in the Professional Officer Course. Junior College and other non-ROTC college transfer students with no previous ROTC training, who qualify academically, are eligible for the two-year program.

AFROTC training is offered to both men and women students. Application for post-commissioning flying training is available to men and women.

GENERAL MILITARY COURSE

The General Military Course (GMC), a two-year course, examines the role of U.S. military forces in the contemporary world, with particular attention to the United States Air Force, its organization and mission. The functions of strategic offensive and defensive forces, general purpose, and aerospace support forces are covered. The development of airpower over the last sixty years is examined by tracing the various concepts of employment of airpower and by focusing on factors which prompted research and technological change. A a variety of events and elements in the history of air-power are stressed, especially where these provide significant examples of the impact of airpower on strategic thought.

THE PROFESSIONAL OFFICER COURSE

Enrollment in the Professional Office Course (POC) is open to applicants who demonstrate a high officer potential. Applicant must: (1) be able to fulfill all requirements for a commission prior to his 30th (26½ years if flying applicant) birthday; (2) have two years of academic enrollment remaining in order to obtain a degree; (3) sign a written contract agreeing to complete the course; (4) be a citizen of the United States; (5) pass the Air Force Officers' Qualification Test; (6) pass the Officer physical examination; (7) terminate membership (if member) of any reserve component, enlist in Air Force Reserve (Obligated Reserve Section); and (8) have an academic average of 2.0 or above. Veterans entering the University who desire a commission through AFROTC should contact the Professor of Aerospace Studies prior to registration.

All Professional Officer Course cadets receive subsistence amounting to $100.00 per month for up to 20 months. This is in addition to the pay received for the four-week Field Training which is normally accomplished between the Sophomore and Junior year. Field Training pay is 50 percent of the basic pay of a Second Lieutenant. Cadets also receive compensation for travel expenses and are furnished food, housing, uniforms, and medical care while attending Field Training, which is conducted at regularly established Air Force Bases. When the student successfully completes the Professional Officer Course and graduates from the University, he is commissioned a second lieutenant in the United States Air Force Reserve. Normally he will be called to active duty and given an assignment commensurate with his academic major, the needs of the Air Force and his personal desires. The active duty requirement for those who enter and satisfactorily complete navigator training is six years, pilot training is seven years from initial call to active duty. For others, the requirement is four years after initial call to active duty.

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The quarter(s) in which undergraduate courses will be taught is (are) indicated by the following codes: F-Fall, W-Winter, S-Spring, SS-Summer. The absence of a code for an undergraduate course indicates the course will be taught upon sufficient demand or as faculty become available.

FLORIDA'S STATEWIDE COURSE NUMBERING SYSTEM

The course numbers appearing in the catalog are part of a statewide system of prefixes and numbers developed for use by all public postsecondary and participating private institutions in Florida. One of the major purposes of this system is to make transferring easier by identifying courses which are equivalent, no matter where they are taught in the state. All courses designated as equivalent will carry the same prefix and last three digits.

The classifying and numbering of courses was done by community college and university faculty members in each academic discipline. Their work was reviewed by faculty members in all of Florida's postsecondary institutions who made suggestions and criticisms to be incorporated into the system.

The course numbering system is, by law, descriptive and not prescriptive. It in no way limits or controls what courses may be offered or how they are taught. It does not affect course titles or descriptions at individual schools. It seeks only to describe what is being offered in postsecondary education in Florida in a manner that is intelligible and useful to students, faculty and other interested users of the system.

The course numbering system was developed so that equivalent courses could be accepted for transfer without misunderstanding. Each public institution is to accept for transfer credit any course which carries the same prefix and last three digits as a course at the receiving institution. For example, if a student has taken SOC _000 at a community college, he cannot be required to repeat SOC _000 at the school to which he transfers. Further, credit for any course or its equivalent, as judged by the appropriate faculty task force and published in the course numbering system, which can be used by a native student to satisfy degree requirements at a state university can also be used for that purpose by a transfer student regardless of where the credit was earned.

It should be noted that a receiving institution is not precluded from using non-*equivalent* courses for satisfying certain requirements.

General Rule for Course Equivalencies

All undergraduate courses bearing the same alpha prefix and last three numbers (and alpha suffix, if present) have been agreed upon to be equivalent. For example, an introductory course in Sociology is offered in over 40 postsecondary institutions in Florida. Since these courses are considered to be equivalent, each one will carry the designator SOC _000.

First Digit

The first digit of the course number is assigned by the institution, generally to indicate the year it is offered—i.e., 1 indicates freshman year, 2 indicates sophomore year. In the sociology example mentioned above, one school which offers the course in the freshman year will number it SOC 1000; a school offering the same course in the sophomore year will number it SOC 2000. The variance in first numbers does *not* affect the equivalency. If the prefix and last three digits are the same, the courses are substantively equivalent.

Titles

Each institution will retain its own title for each of its courses. The sociology courses mentioned above are titled at different schools "Introductory Sociology," "General Sociology," and "Principles of Sociology." The title does *not* affect the equivalency. The courses all carry the same prefix and last three digits; that is what identifies them as equivalent.

Lab Indicators

Some courses will carry an alpha suffix indicating a lab. The alpha suffixes "L" and "C" are used as follows to indicate laboratories:

"L" means either (a) a course, the content of which is entirely laboratory or (b) the laboratory component of a lecture-lab sequence in which the lab is offered at a different time/place from the lecture.

"C" means a combined lecture-lab course in which the lab is offered in conjunction with the lecture at the same time/same place.

Examples: Marine Biology OCB _013 (lecture only)
OCB _013L (lab only)
Marine Biology with Lab OCB 013C (lecture and lab combined)

Therefore, OCB _013C is equivalent to OCB _013 plus OCB _013L.

Equivalency of Sequences

In certain cases, sequences of courses in a given discipline are equivalent rather than the individual courses which make up these sequences. (For example, MAC _132, _133, _134). In these cases the subject matter topics may not be taught in the same sequence, course by course, in several institutions; however, upon completion of the full sequence at any of the several institutions, students have completed substantively equivalent content. These sequences are clearly identified in the Course Equivalency Profiles.

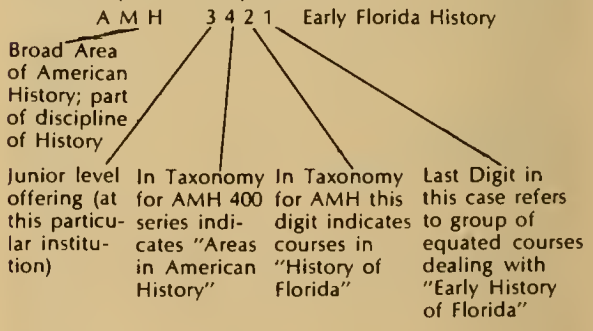
Explanation of Prefixes and Numbers

Prefixes and numbers in the course numbering system are not chosen at random; they are designed to describe course content in an organized fashion within a classification system developed for each subject matter area.

Generally, each of the major classifications in a discipline is represented by a three-alpha prefix. In some cases, one three-alpha prefix has been sufficient for the entire discipline. A discipline may use as many prefixes as necessary to accommodate its major classifications. The logic of the system allows it to be infinitely expandable with minimal disruption to existing numbers.

History, for example, has seven prefixes: AFH, African History; AMH, American History; ASH, Asian History; EUH, European History; HIS, History-General; LAH, Latin American History; and WOH, World History. All history courses in the state will carry one of these prefixes.

A more specific example is AMH 3421.


A M H 3 4 2 1 Early Florida History
Broad Area of American History; part of discipline of History
Junior level offering (at this particular institution)
In Taxonomy for AMH 400 series indicates "Areas in American History"
In Taxonomy for AMH this digit indicates courses in "History of Florida"
Last Digit in this case refers to group of equated courses dealing with "Early History of Florida"

(Local titles are used for each particular course. The last three numbers are used to indicate equivalency.)

The number of prefixes is a function of the extent of the subclassifications of the given subject matter area.

When this work began there were 920 alpha prefixes in existence; with the new system there are now 370. As in most states there existed no uniformity in Florida's prefixes as indicated by the example below:

Discipline	*Before*	*After*
History	20	7
Sociology	24	3
Philosophy	23	4
Religion	17	1
Mathematics	50	10
English	39	6
Nutrition	38	4

Although it is true that a student majoring at one of the 38 participating institutions may have had only one alpha prefix for his major (e.g., HY-History) and now he will have seven,

all prefixes in the same subject matter areas will be the same throughout these institutions.

A complete inventory of taxonomic listings, equivalent and unique courses has been made available to each academic department of every institution in the state. Students, through their local advisors, should use this information in designing programs which will transfer smoothly.

Exceptions to the Rule for Equivalencies

The following are exceptions to the general rule for course equivalencies:

A. All graduate level courses (except those which the faculty and their reviewing colleagues have determined to be substantively equivalent with undergraduate courses) are not automatically transferable.

B. All numbers which have a second digit of 9 (Ex.: ART 2905) are "place keeper" numbers for such courses as directed independent study, thesis hours, etc. Courses with _900 numbers must be evaluated individually and are not automatically transferable.

C. All internships, practicums, clinical experiences and study abroad courses, whatever numbers they carry, are not automatically transferable.

D. Performance or studio courses in Art, Dance, Theatre, and Music are not automatically transferable but must be evaluated individually.

COURSE PREFIXES LISTING

The following table lists the statewide course prefixes, their titles, and the University of Florida departments which teach this subject matter.

PREFIX	TITLE	TAUGHT BY DEPTS. OF:
ACC	Accounting	Accounting
ADE	Adult Education	Education-Administration & Supervision
ADE	Adult Education	Education-Instruction Leadership & Supervision
ADV	Advertising	Advertising
ADV	Advertising	Communications
AEB	Agr. Economics & Bus.	Food & Resource Economics
AEE	Agr. & Ext. Education	Agricultural & Extension Education
AFA	Afro-American Studies	Liberal Arts & Sciences-Gen
AFH	African History	History
AFR	Air Force ROTC	Military Science-Air Force
AFS	African Studies	Behavioral Studies
"	" "	Liberal Arts & Sciences-Gen
AGE	Agricul. Engineer.	Agricultural Engineering
AGG	Agriculture-General	Agriculture-General
AGR	Agronomy	Agronomy
"	"	Animal Science
"	"	Food Science
AMH	American History	American Studies
"	" "	Engineering-Common Courses
"	" "	History
AML	American Literature	English
AMS	American Studies	American Studies
ANS	Animal Science	Animal Science
ANT	Anthropology	Anthropology
"	"	Religion
APB	Applied Biology	Biological Sciences
"	" "	Botany
"	" "	Health Related Professions
"	" "	Medicine-Physiology
"	" "	Microbiology & Cell Science
"	" "	Nuclear Engineering Sciences
"	" "	Zoology
ARC	Architecture	Architecture
ARE	Art Education	Education-General Teacher Education
"	" "	Education-Subject Specialization
ARH	Art History	Art
ART	Art	Art
"	"	Education-Subject Specialization
ASG	Animal Science-General	Animal Sciences-General
ASH	Asian History	History
ASI	Astronomy-Instrument.	Astronomy
ASN	Asian Studies	Asian Studies
"	" "	Social Sciences
AST	Astronomy	Astronomy
"	"	Physics
BCC	Basic Clinical Clerkship	Medicine-General
BCH	Biochemistry	Biochemistry & Molecular Biology
"	"	Botany
BCN	Building Construction	Building Construction
"	" "	Engineering Science & Mechanics
BES	Behavioral Studies	Behavioral Studies
BMS	Basic Medical Sciences	Biochemistry & Molecular Biology
"	" " "	Medicine-Anatomy
"	" " "	Medicine-General
"	" " "	Medicine-Immunology & Medical Microbiology
"	" " "	Medicine-Neuroscience
"	" " "	Medicine-Pathology
"	" " "	Medicine-Pharmacology
"	" " "	Medicine-Physiology
BOT	Botany	Botany
"	"	Microbiology & Cell Science
BSC	Introductory Biology	Bio Sci-Integrated Sequence
"	" "	Biochemistry & Molecular Biology
"	" "	Biological Sciences
BTE	Business Teacher Education	Education-Instructional Leadership & Supervision
"	" " "	Education-Subject Specialization
BUL	Business Law	Business Administration-General
CAP	Computer Applications	Business Administration-General
"	" "	Chemical Engineering
"	" "	Computer & Information Science
CBH	Comp. Psy. & Animal Behavior	Psychology
CCJ	Criminology & Criminal Justice	Criminal Justice
CDA	Computer Design/Arch.	Computer & Information Science
CES	Civil Engineering Structures	Civil Engineering
CHI	Chinese Language	Chinese
CHM	Chemistry	Chemical Engineering
"	"	Chemistry
CHS	Chemistry-Specialized	Chemistry
CIS	Computer & Info. Systems	Computer & Information Science
CLA	Classical & Ancient Studies	Classics
CLP	Clinical Psychology	Clinical Psychology
"	" "	Psychology
CLT	Classical Lit. in Translation	Classics
CNM	Computational/Numerical Methods	Computer & Information Science
"	" " "	Industrial & Systems Engineering
COC	Computer Concepts	Computer & Information Science
"	" "	Liberal Arts & Sciences-Gen
COE	Cooperative Education	Cooperative Education Program
COM	Communication	Communications
"	"	Speech
COP	Computer Programming	Computer & Information Science
"	" "	Industrial & Systems Engineering
COT	Computer Theory	Computer & Information Science
CPO	Comparative Politics	Political Science

COURSE PREFIXES LISTING

PREFIX	TITLE	TAUGHT BY DEPTS. OF:
CRM	Computer Resources/Management	Computer & Information Science
CRW	Creative Writing	English
CYP	Community Psychology	Clinical Psychology
DAA	Dance Activities	Physical Education-General
"	" "	Physical Education-Professional
"	" "	Theatre
DAE	Dance Education	Physical Education-Professional
"	" "	Theatre
DAN	Dance	Physical Education-Professional
"	"	Theatre
DAS	Dairy Science	Dairy Science
DEN	Dentistry	Dentistry
DEP	Developmental Psychology	Clinical Psychology
"	" "	Psychology
DHE	Demography & Human Ecology	Sociology
DIE	Dietetics	Clinical & Community Dietetics
"	"	Food Science
EAB	Experimental Analysis of Behavior	Psychology
EAS	Engineering: Aerospace	Aerospace Engineering
ECH	Engineering: Chemical	Chemical Engineering
ECI	Engineering: Civil	Civil Engineering
ECM	Engineering: Computer Mathematics	Industrial & Systems Engineering
ECO	Economics	Economics
"	"	Education-Subject Specialization
ECP	Economic Problems & Policy	Economics
"		Urban & Regional Planning
ECS	Economic Systems & Development	Economics
"	" " "	History
EDA	Education: Administration	Education-Admin. & Supervision
EDE	Education: Elementary	Education-General Teacher Education
"	" "	Education-Instructional Leadership & Supervision
EDF	Education: Foundations	Education-Foundations
"	" "	Education-General Teacher Education
EDG	Education: General	Education-General Teacher Education
"	" "	Education-Instructional Leadership & Supervision
"	" "	Education-Subject Specialization
EDH	Education: Higher	Education-Instructional Leadership & Supervision
EDM	Education: Middle School	Education-General Teacher Education
"	" " "	Education-Subject Specialization
EDS	Education: Supervision	Education-General Teacher Education
"	" "	Education-Instructional Leadership & Supervision
EEC	Education: Early Childhood	Education-General Teacher Education
EED	Education: Emotional Disorders	Education-Special Education
EEL	Engineering: Electrical	Computer & Information Science
"	" "	Electrical Engineering
EES	Environmental Engineering Science	Environmental Engineering Science
"	" " "	Microbiology & Cell Science
EEX	Education: Except. Child-Core Comp.	Education-Admin. & Supervision
"	" " " "	Education-Special Education
"	" " " "	Education-Subject Specialization
EGC	Guidance & Counseling	Education-Counselor Education
"	" "	Rehabilitation Counseling
EGI	Education: Except. Child-Gifted	Education-Special Education
EGM	Engineering: Mechanical	Engineering-Common Courses
"	" "	Engineering Science & Mechanics
EGN	Engineering: General	Civil Engineering
"	" "	Engineering-Common Courses
"	" "	Engineering Graphics
"	" "	Liberal Arts & Sciences-Gen
EIA	Education: Industrial Arts	Education-Subject Specialization
EIN	Engineering: Industrial	Industrial & Systems Engineering
ELD	Ed: Specific Learning Disabilities	Education-Special Education
ELR	Engineer: Elec. Lab & Related Areas	Electrical Engineering
EMA	Engineering: Material	Materials Science & Engineering
EME	Education: Technology & Media	Education-Instructional Leadership & Supervision
EML	Engineering: Mechanical	Mechanical Engineering
EMR	Education: Mental Retardation	Education-Special Education
ENC	English Composition	English
ENG	English-General	English
"	" "	Linguistics
ENL	English Literature	English
ENU	Engineering: Nuclear	Coastal & Oceanographic Engine
"	" "	Microbiology & Cell Science
"	" "	Nuclear Engineering Sciences
ENV	Engineering: Environmental	Civil Engineering
"	" "	Environmental Engineering Science
ENY	Entomology	Entomology & Nematology
EOC	Engineering: Ocean	Coastal & Oceanographic Engine
EPH	Ed: Physical & Multiple Handicap	Education-Special Education
ESE	Education: Secondary	Education-General Teacher Education
"	" "	Education-Subject Specialization
ESI	Engineering Systems-Industrial	Industrial & Systems Engineering
ESL	English Study of Language	English
ETC	Engineering Tech: Civil	Engineering Technology
ETG	Engineering Tech: General	Engineering Technology
"	" " "	Materials Science & Engineering
ETI	Engineering Tech: Industrial	Engineering Technology
ETM	Engineering Tech: Mechanical	Engineering Technology
EUH	European History	History
EUS	European Studies	Liberal Arts & Sciences-Gen
EVS	Environmental Science	Engineering Technology
EVT	Ed: Vocational/Technical	Education-Instructional Leadership & Supervision
"	" " "	Education-Subject Specialization
EXP	Experimental Psychology	Medicine-Neuroscience
"	" "	Psychology
"	" "	Zoology
FIL	Film	Broadcasting
"	Film	Communications
FIN	Finance	Business Admin.-General
"	"	Finance & Insurance
FLE	Foreign Lang. Ed.	Education-Subject Specialization
FNR	Forestry & Natural Resources	Forest Resources & Conservation
FOL	Foreign & Biblical Languages	Foreign Language-Cross Department
"	" " "	Romance Languages and Literature
FOR	Forestry	Forest Resources & Conservation
FOS	Food Science	Food Science
FOW		German
FOW	For. & Bib. Lang. Comp. Lit.	Romance Languages and Literature
FRC	Fruit Crops	Fruit Crops
"	" "	Horticultural Science
FRE	French Lang.	French

PREFIX	TITLE	TAUGHT BY DEPTS. OF:
FRT	French Lit. in Translation	French
FRW	French Lit. (Writings)	French
GEA	Geography-Regional (Area)	Geography
GEB	General Business	Business Admin.-General
GEO	Geography-System	Geography
GER	German Language	German
GET	German Lit. in Translation	German
GEW	German Lit. (Writings)	German
GEY	Gerontology	Gerontology
GLY	Geology	Geology
GMS	Graduate Medical Sciences	Medicine-General
"	" ""	Medicine-Neuroscience
GRE	Greek Language	Greek
GRW	Greek Lit. (Writings)	Greek
HCA	Health Care Administration	Health & Hospital Administration
"	" " "	Health Related Professions
"	" " "	Liberal Arts & Sciences-Gen
HEB	Hebrew	Hebrew
HES	Health Education & Safety	Health Education & Safety
"	" " "	History
HIS	History-General	Engineering-Common Courses
"	" "	History
HLP	Health, Leisure, & Phy. Ed.	Health Education & Safety
HOS	Horticultural Sciences	Horticultural Science
HSC	Health Science	Classics
"	" "	Health Related Professions
"	" "	Liberal Arts & Sciences-Gen
HUM	Humanities	Asian Studies
"	"	English
"	"	Fine Arts
"	"	Humanities
"	"	Liberal Arts & Sciences-Gen
HUN	Human Nutrition	Clinical & Community Dietetics
"	" "	Food Science
ICW	Icelandic Lit. (Writings)	German
IDS	Interdisciplinary Studies	Behavioral Studies
"	" "	Humanities
"	" "	Liberal Arts & Sci Integr. Stu.
"	" "	Liberal Arts & Sciences-Gen
"	" "	Liberal Arts & Sciences Honors
IND	Interior Design	Interior Design
INR	International Relations	Physical Sciences
"	" "	Political Science
ISC	Interdisciplinary Natural Science	Physical Sciences
ITA	Italian Language	Italian
ITW	Italian Literature (Writings)	Italian
JAP	Japanese Language	Japanese
JOU	Journalism	Communications
"	"	Journalism
LAA	Landscape Architecture	Landscape Architecture
LAE	Lang. Arts & English Ed.	Education-Subject Specialization
"	" " " "	English
LAH	Latin American History	History
LAS	Latin American Studies	Latin American Studies
LAT	Latin (Language Study)	Latin
LAW	Law	Law
"	"	Law-Taxation
LEI	Leisure	Recreation
LIN	Linguistics	English
"	"	Foreign Language-Cross Department
"	"	Health Related Professions
"	"	Linguistics
"	"	Speech
LIS	Library Science	English
LIT	Literatures	English
LNW	Latin Literature	Latin
MAA	Mathematics-Analysis	Mathematics
MAC	Math: Calculus & Precalculus	Mathematics
MAD	Mathematics-Discrete	Mathematics
MAE	Mathematics Education	Education-Subject Specialization
"	" "	Mathematics
MAF	Marriage & Family	Behavioral Studies
"	" "	Sociology
MAG	Mechanized Agriculture	Mechanized Agriculture
MAN	Management	Business Admin.-General
"	"	Management
MAP	Mathematics-Applied	Mathematics
MAR	Marketing	Business Admin.-General
"	"	Marketing
MAS	Math: Algebraic Structures	Mathematics
MAT	Mathematics	Mathematics
MCB	Microbiology	Microbiology & Cell Science
MED	Medicine	Medicine
MET	Meteorology	Atmospheric Sciences
"	"	Geography
MGF	Math: General & Finite	Mathematics
MHF	Math: History & Foundations	Mathematics
MIS	Military Science	Military Science-Army
MLS	Medical Laboratory Science	Medical Technology
MMC	Mass Media Communication	Communications
"	" " "	Journalism
MTB	Math: Technology & Business	Mathematics
MTG	Math: Topology & Geometry	Mathematics
MUC	Music: Composition	Music
MUE	Music Education	Education-Subject Specialization
"	" "	Music
MUG	Music: Conducting	Music
MUH	Music: History/Musicology	Music
MUL	Music: Music Literature	Music
MUN	Music: Musical Ensembles	Music
MUO	Music: Opera/Musical Theatre	Music
MUR	Music: Church Music	Music
MUS	Music	Music
MUT	Music: Theory	Music
MVB	Music: Applied Brasses	Music
MVK	Music: Applied-Keyboard	Music
MVO	Music: Applied-Other Instruments	Music
MVP	Music: Applied-Percussion	Music
MVS	Music: Applied-Strings	Music
MVV	Music: Applied-Voice	Music
MVW	Music: Applied-Woodwinds	Music
NSC	Naval Science	Military Science-Navy
NUR	Nursing	Nursing
NUS	Nursing Support	Nursing
NUU	Nursing Universals	Nursing
OCC	Oceanography: Chemical	Coastal & Oceanographic Engineering
OCE	Oceanography	Coastal & Oceanographic Engineering
"	"	Geology
OCG	Oceanography: Geological	Geology
OCP	Oceanography: Physical	Coastal & Oceanographic Engineering
OMT	Oceanography: Marine Technology	Liberal Arts & Sciences-Gen
ORH	Ornamental Horticulture	Horticultural Science
"	" "	Ornamental Horticulture
ORI	Oral Interpretation	Theatre
OTH	Occupational Therapy	Occupational Therapy
PAD	Public Administration	Political Science
PAS	Physician's Assistant	Physicians Assistant
PCB	Process Biology	Botany
"	" "	Medicine-Biochemistry
"	" "	Microbiology & Cell Science
"	" "	Zoology
PCO	Psychology for Counseling	Education-Counselor Education
"	" " "	Psychology
PEL	Phy. Ed. (Gen.)-Object Centrd.-Land	Physical Education-General
PEM	Phy. Ed. (Gen.)-Perfm Centrd.-Land	Physical Education-General
PEN	Phy. Ed. (Gen.)-Water	Physical Education-General
PEO	Phy. Ed. (Pro)-Object Centrd.-Land	Physical Education-Professional
PEP	Phy. Ed. (Pro)-Perfm Centrd-Land	Physical Education-Professional
PEQ	Phy Ed. (Pro)-Water	Physical Education-Professional
PET	Phy. Ed. Theory	Physical Education-Professional
PHA	Pharmacy	Pharmaceutical Chemistry
"	"	Pharmacology
"	"	Pharmacy
PHH	Philosophy, History of	Philosophy
PHI	Philosophy	Philosophy
"	"	Religion

COURSE PREFIXES LISTING

PREFIX	TITLE	TAUGHT BY DEPTS. OF:
PHM	Philosophy of Man & Society	Philosophy
PHP	Philosophers & Schools	Philosophy
PHS	Physics-Specialized	Astronomy
"	" "	Physics
PHT	Physical Therapy	Physical Therapy
PHY	Physics	Astronomy
"	"	Physics
PLP	Plant Pathology	Plant Pathology
PLS	Plant Science	Agronomy
"	" "	Plant Sciences-General
PLW	Polish Lit (Writings)	Polish
PMA	Pest Management	Pest Management & Plant Protection
POL	Polish Language	Polish
POR	Portuguese Language	Portuguese
POS	Political Science	Political Science
POT	Political Theory	Political Science
POW	Portuguese Lit (Writings)	Portuguese
PPE	Psychology of Personality	Psychology
PRT	Portuguese in Translation	Portuguese
PSB	Psychobiology	Psychology
"	"	Zoology
PSC	Physical Sciences	Physical Sciences
PSE	Poultry Science	Poultry Science
PSY	Psychology	Psychology
PUP	Public Policy	Political Science
PUR	Public Relations	Communications
"	" "	Public Relations
QMB	Quantitative Methods in Business	Business Admin.-General
"	" " "	Management
REA	Reading	English
RED	Reading Education	Education-Instructional Leadership & Supervision
"	" "	English
REE	Real Estate	Real Estate & Urban Analysis
REL	Religion	Behavioral Studies
"	"	Philosophy
"	"	Religion
RMI	Risk Management & Insurance	Finance & Insurance
RTV	Radio-Television	Broadcasting
"	" "	Communications
RUS	Russian Language	Russian
RUT	Russian Lit. in Translation	Russian
RUW	Russian Lit. (Writings)	Russian
SCE	Science Education	Education-Subject Specialization
SED	Speech Education	Education-Subject Specialization
"	" "	Liberal Arts & Sciences-Gen
"	" "	Speech
SOC	Sociology	Religion
"	"	Sociology
SOP	Social Psychology	Psychology
SOS	Soil Science	Forest Resources & Conservation
"	" "	Soil Science
SOW	Social Work	Sociology
SPA	Speech Pathology & Audiology	Speech
SPC	Speech Communication	English
"	" "	Social Sciences
"	" "	Speech
SPN	Spanish Language	Spanish
SPS	School Psychology	Education-Foundations
SPT	Spanish Lit. in Translation	Spanish
SPW	Spanish Lit. (Writings)	Spanish
SSE	Social Studies Education	Education-Subject Specialization
SSI	Social Sciences-Interdis.	Economics
"	" " "	History
"	" " " "	Political Science
"	" " " "	Social Sciences
"	" " " "	Sociology
STA	Statistics	Business Admin.-General
"	"	Industrial & Systems Engineering
"	"	Statistics
STD	Student Development	Career Development Program
SUR	Surveying	Civil Engineering
SWA	Swahili Language	Swahili
SWT	Swahili Lit. in Translation	Swahili
THE	Theatre	Theatre
TPA	Theatre Production & Admin.	Theatre
TPP	Theatre Perfm. & Perfm. Training	Theatre
TTE	Transportation & Traffic Engineer.	Civil Engineering
URP	Urban & Regional Planning	Urban & Regional Planning
VEC	Vegetable Crops	Horticultural Science
"	" "	Vegetable Crops
VEM	Veterinary Medicine	Veterinary Medicine
VES	Veterinary Science	Veterinary Science
WIS	Wildlife Science	Forest Resources & Conservation
WOH	World History	History
WST	Women's Studies	Liberal Arts & Sciences-Gen
ZOO	Zoology	Anthropology
"	"	Botany
"	"	Geology
"	"	Microbiology & Cell Science
"	"	Zoology

ACCOUNTING
School of Accounting

INSTRUCTIONAL STAFF 1979-80

Simmons, J.K., Director: Abdel-khalik, A.R.; Addy, N.; Ajinkya, B.B.; Atiase, R.; Bailey, K.E.; Barton, T.; Boyles, J.V.; Collins, J.A.; Collins, W.A.; Friedberg, A.H.; Gift, M.J.; Gleim, I.N.; Gomaa, I.; Holstrum, G.L.; Johnson, S.; Judd, A.J.; Kramer, J.L.; Kramer, S.S.; Lee, T.; Maddocks, M.; Manning, K.; Mayper, A.; McDonald, C.L.; Messier, W.; Patz, D.H.; Plumlee, R.D.; Ray, D.D.; Shields, D.P.; Smith, E.D.; Snowball, D.A.T.; Stewart, D.; Stone, W.E.; Tabor, R.; Thompson, R.; Weatherhead, P.D.; Welch, P.R.; Westmoreland, G.; Wragge, J.H.; Yu, S.C.

Courses numbered 3000 or higher are open only to students with Junior standing or above. Courses numbered below 3000 are not open to students with 4AC classification. Note, in addition, the specific prerequisites for certain courses. A student may not take an accounting course [with the exception of ACC 2301] unless a grade of "C" or better has been earned in each accounting prerequisite to that course.

ACC 2001 Introduction to Accounting. F, W, S, SS.
Credits: 5
Conceptual introduction to financial accounting and managerial accounting. Emphasizes the role of accounting in the resource allocation process; alternative wealth and income measurement models; preparation, interpretation and analysis of conventional financial statements.

ACC 2103 Financial Accounting 1. F, W, S, SS.
Credits: 4; Prereq: ACC 2001.
A study of the basic accounting cycle. The assumptions underlying income determination and the theories of matching costs and revenue. Asset acquisition and valuation. Required for accounting major students.

ACC 2301 Elementary Managerial Accounting. F, W, S, SS.
Credits: 3; Prereq: ACC 2001.
Accounting for cost reporting and control. Reports, statements and analytical tools used by management. Especially recommended for students not intending to be accounting majors.

ACC 3123 Financial Accounting 2. F, W, S, SS.
Credits: 4; Prereq: ACC 2103 and FIN 3403.
Continuation of ACC 2103.

ACC 3143 Financial Accounting 3. F, W, S, SS.
Credits: 4; Prereq: ACC 3123.
Continuation of ACC 2103 and ACC 3123.

ACC 3401 Cost and Management Accounting 1. F, W, S, SS.
Credits: 4; Prereq: ACC 2001 and ACC 2103.
A study of basic cost terminology; an introduction to management accounting including job, process and joint product cost accounting.

ACC 3421 Cost and Management Accounting 2. F, W, S, SS.
Credits: 4; Prereq: ACC 3401 and FIN 3403.
An intensive study of financial information useful for planning and control with emphasis upon standard costing.

ACC 4443 Accounting for Management. W.
Credits: 4; Prereq: ACC 3421 and QMB 3700.
Interpretative accounting for management purposes.

ACC 4501 Federal Income Tax Accounting 1. F, W, S, SS.
Credits: 4; Prereq: ACC 2103.
Emphasizes the tax treatment of economic transactions regularly encountered in day-to-day business operations and family living situations. Fundamental concepts and statutory rules will be stressed as well as the computational procedures. The topics covered include the basic statutory provisions relevant to determining taxable gross income, allowable deductions, the tax computation, the recognition or non-recognition of gains or losses on dispositions of property, and the characterization of gains or losses.

ACC 4541 Federal Income Tax Accounting 2. F, W, S, SS.
Credits: 4; Prereq: ACC 4501.
A continuation of Federal Income Tax Accounting I. Topics covered include basic techniques for researching Federal income tax questions, as well as a survey of tax reporting periods and methods, assignment of income rules, deferred compensation, and the taxation of corporations, partnerships, and fiduciaries.

ACC 4602 Auditing Theory and Internal Control 1. F, W, S, SS.
Credits: 4; Prereq: ACC 3143, ACC 3421, and ACC 4741.
A study of auditing standards and procedures with emphasis on ethics, legal liability, internal control, audit evidence, auditor reports and an introduction to statistical sampling and auditing EDP systems.

ACC 4741 Information Systems for Management Planning and Control. F, W, S, SS.
Credits: 4; Prereq: COP 3120, ACC 3401 or ACC 2301.
The application of the systems approach to the development of the accountants' function of providing information for management.

ACC 4850 Financial Statement Analysis for Non-accountants.
Credits: 4; Prereq: ACC 2301.
An analysis of the process of accumulating financial information and the elements, underlying assumptions, and limitations of financial statements. An assessment of the forces shaping financial reporting, especially the FASB and the SEC. Not for accounting majors.

ACC 4905 Individual Work in Taxation. F, W, S, SS.
Credits: 1 to 3; Prereq: ACC 4501 and permission of the School.
For students who wish to support regular coursework in taxation by individual study under guidance. May be repeated with change in content up to a maximum of 6 credits.

ACC 4934 Special Topics. F, W, S.
Credits: 1 to 4; Prereq: Permission of the School.
Course of variable content providing an opportunity for study in depth of topics not offered in other courses and of topics of special current significance. May be repeated with change in content up to a maximum of 8 credits.

ACC 4940 Supervised Accounting Internship. F, W, S, SS.
Credits: 3 to 5††; Prereq: consent of advisor.
Applied work in professional accounting. Requires several papers and reports. May be repeated with change of content up to a maximum of 10 credits.

ADVANCED ACCOUNTANCY AND GRADUATE COURSES

Courses in the 5000 group are available to undergraduate students with the approval of their advisor. Registration in 6000 level courses requires advisor approval.

ACC 5011 Financial Accounting. F, W, S.
Credits: 5; (not for accounting majors).

ACC 5214 Advanced Financial Accounting for Complex Organizations. F, W, S.
Credits: 4; Prereq: ACC 3143.

ACC 5231 Financial Reporting Standards. F, W, S, SS.
Credits: 4; Prereq: ACC 3143.

ACC 5512 Federal Income Taxation Procedures and Research. F.
Credits: 4; Prereq: ACC 4541.

ACC 5513 Transactions Involving Shareholders and Corporations. W.
Credits: 4; Prereq: ACC 5512.

ACC 5531 Federal Estate and Gift Tax Accounting. S.
Credits: 4; Prereq: ACC 5512 or consent of instructor.

ACC 5632 Auditing Theory and Internal Control 2. W.
Credits: 4; Prereq: ACC 4602 and ECO 3411.

ACC 5745 Management Information Systems Theory. S.
Credits: 4; Prereq: ACC 4741.

ACC 5751 Administration of the Systems Function.
Credits: 4; Prereq: ACC 5745 or ACC 4741 with consent of instructor.

ACC 5846 Advanced Accounting Analysis for the Controllership Function. S.
Credits: 4; Prereq: ACC 3421.

ACC 5865 Public Administration Accounting.
Credits: 4; Prereq: ACC 3123.

ACC 5870 CPA Examination Review.
Credits: 4; Prereq: Consent of instructor.

ACC 6290 Accounting Theory.
Credits: 4

ACC 6411 Cost Accounting Theory and Applications.
Credits: 4

ACC 6692 Auditing and Financial Accounting Issues and Cases.
Credits: 4

ACC 6739 Management Information Systems Seminar.
Credits: 4

ACC 6811 Social and Economic Accounting.
Credits: 5

ACC 6821 Interdisciplinary Considerations in Accounting Theory Development.
Credits: 5

ACC 6831 Accounting and Analytical Methods.
Credits: 5

ACC 6905 Individual Work in Accounting.
Credits: 1 to 5

ACC 6910 Supervised Research.
Credits: 1 to 5††

ACC 6940 Supervised Teaching.
Credits: 1 to 5††

ACC 6971 Masters Research.
Credits: 1 to 15††

ACC 7292 Accounting Information for External Users.
Credits: 5

ACC 7395 Accounting Theory as Related to Managerial Decision Making.
Credits: 5

ACC 7805 Development of Thought in Accounting Theory.
Credits: 5

ACC 7925 Accounting Research Workshop.
Credits: 4

ACC 7980 Doctoral Research.
Credits: 1 to 15††

ADVERTISING
College of Journalism and Communications

INSTRUCTIONAL STAFF 1979-80

Terhune, J.L., Chairman; Holland, D.R.; Hooper, L.J.; Malickson, D.L.; Pierce, F.N.; Pisani, J.R.; Sutherland, J.C.

The program in advertising is designed primarily to train men and women for planning, creative,

††Grading is on S-U basis only.

administrative, sales or other positions with advertisers, media, or agencies. These courses, however, may be taken for elective credit by students in all Upper Division units of the University. Students who are interested in major work in Advertising, Journalism, Radio, Television and Public Relations are also referred to course offerings under Broadcasting, Journalism and Public Relations and to the requirements of the College of Journalism and Communications.

ADV 3000 Elements of Advertising. F, W, S, SS.
Credits: 4; Prereq: Junior standing or MMC 2100.
The role of advertising in a free economy, and its place in the media of mass communications. A study of advertising appeals, product and market research, selection of media, testing of advertising effectiveness, organization of the advertising profession.

ADV 4101 Copywriting and Visualization. F, W, S, SS.
Credits: 4; Prereq: MMC 2100 and ADV 3000; ability to type 30 words per minute.
Theory and practice of writing copy and preparing rough visuals for print advertising, including newspapers, magazines, direct mail and outdoor advertising.

ADV 4102 Advanced Copywriting. W, S.
Credits: 4; Prereq: ADV 4103 and ADV 4101
Advanced projects in major advertising fields — e.g., consumer, public service and industrial advertising. Emphasis on research, planning, and writing. Group discussions and individual conferences.

ADV 4103 Radio-TV Advertising. F, W, S, SS.
Credits: 4; Prereq: MMC 2100 and ADV 3000; ability to type 30 words per minute.
Study of economics, standards and ethics of radio and television advertising copy. Preparation and presentation of commercial broadcast copy.

ADV 4200 Advertising Graphics and Production. F, S.
Credits: 4; Prereq: ADV 3000.
Designed to acquaint students with the terminology and production techniques of the advertising business. Lectures will cover such subjects as typography, printing, engraving, photography, silk screening, direct mail, exhibits, displays, packaging.

ADV 4300 Media Planning Strategy. F, W, S.
Credits: 4; Prereq: ADV 3000.
Designed to acquaint students with the problems, techniques and strategy of buying advertising space and time effectively and economically in newspapers, magazines, radio, television and outdoor media.

ADV 4400 International Advertising.
Credits: 4; Prereq: ADV 3000.
Advertising in the world's markets. A review of the various advertising methods and techniques in copy and layout used outside the U.S. Emphasis on the relationship of foreign advertising to the American style.

ADV 4500 Public Opinion Theory and Advertising. F, W, S, SS.
Credits: 4; Prereq: Junior standing.
The dynamics of advertising and promoting goods, services, and ideas in terms of modern public opinion concepts, communication theory, semantics and the behavioral sciences.

ADV 4501 Advertising Research Techniques. F, W, S, SS.
Credits: 4; Prereq: Senior standing in the College of Journalism and Communications.
The application of both survey and experimental techniques to determine the effectiveness of print and broadcast advertising messages. Emphasis on stating objectives and determining by pre- and post-testing of advertising copy the attainment of goals. Special attention to secondary research sources. Use of case studies.

ADV 4600 Advertising Agency Management. W, S.
Credits: 4
An overview of the advertising agency business in the U.S. with emphasis on the advertising agency as a business operation. Includes billing procedures, income sources, cost-accounting techniques, internal operations, personnel policies, the law and the agency and current trends.

ADV 4700 Retail Advertising. W.
Credits: 4; Prereq: ADV 4101, ADV 4103.
A Senior course bringing together work of the preceding advertising courses into actual experience and training in the planning, preparation, presentation and selling of retail advertising.

ADV 4800 Advertising Campaigns. F, W, S, SS.
Credits: 4; Prereq: ADV 4103, ADV 4101 and Senior standing in the College of Journalism and Communications.
An advanced advertising course requiring the student to prepare and produce complete general advertising campaigns. Emphasis is placed on production methods, costs, research and media analysis.

ADV 4905 Individual Problems. F, W, S, SS.
Credits: 1 to 5
At least 15 hours of Advertising in the Upper Division, and approval of the Chairman and the Dean. The student and the instructor concerned will choose a problem or project which will give the student experience in his major field.

ADV 4930 Special Study in Advertising.
Credits: 4
Variable advertising-related topics not covered in other advertising courses. May be repeated with change of content one time.

ADV 4931 Seminar: Ethics and Problems in Advertising. F, W, S, SS.
Credits: 4
Open only to advertising Seniors in their graduating quarter, or on approval of instructor. Bringing together the work of preceding advertising courses and projecting this knowledge to the solution of problems that will arise in the professional field.

ADV 4932 Individual Problems in Advertising (Honors).
Credits: 1 to 5
At least 15 hours of Advertising in the Upper Division, good standing in the Honors Program, approval of the Honors Committee and approval of the Chairman. The student and the instructor concerned will choose a problem or project which is consonant with the objectives of the Honors Program.

ADV 4940 Advertising Internship. F, W, S, SS.
Credits: 1 to 5††; Prereq: Minimum of 15 hours of professional courses earned and a 2.5 grade point average. Must have advance approval from academic adviser, department and college offices to receive credit.
Student and instructor will select an appropriate work area related to the field of advertising for on-the-job training. Student will work a minimum of three hours on the job for every hour of credit to be received. Progress reports and summary required. May be repeated with change of content up to a maximum of 10 credits.

ADV 4949 Co-op Work Experience. F, W, S, SS.
Credits: 1††; Prereq: Minimum of 15 hours of professional courses earned and a 2.5 GPA. Must have advance approval from academic adviser, department and college offices to receive credit.
Practical co-op work experience relating to advertising under approved business, institutional or governmental supervision. May be repeated with changed work program upon departmental approval.

††Grading is on S-U basis only.

AEROSPACE ENGINEERING
College of Engineering

INSTRUCTIONAL STAFF 1979-80

Millsaps, Knox, Chairman; Anderson, R.C.; Bisplinghoff, R.L.; Boykin, W.H., Jr.; Clarkson, M.H.; Cristescu, N.; Doddington, H.W.; Ebcioglu, I.K.; Edson, C.G.; Eisenberg, M.A.; Fearn, R.L.; Green, A.E.S.; Grinter, L.E.; Hartley, C.S.; Hemp, G.W.; Hoover, J.W.; Hsu, C.-C.; Kalman, R.E.; Kurzweg, U.H.; Leadon, B.M.; Lindgren, E.R.; Lu, S.Y.; Malvern, L.E.; Milton, J.E.; Nevill, G.E., Jr.; Partheniades, E.; Ross, C.A.; Sierakowski, R.L.; Sun, C.T.; Walsh, E.K.; Wilhelm, H.E.

EAS 1930 Freshman Seminar in Aerospace Engineering. F, W, S, SS.
Credits: 1††
Discussion of a field of aerospace engineering endeavor. Consult department each quarter for particular subject offered. May be repeated with a change of content up to a maximum of 3 credits.

EAS 3001 Applied Aerodynamics 1. W.
Credits: 3; Prereq: 2 quarters of physics or physical science.
Survey of topics in aeronautics and astronautics. History of flight. Sociological and economic effects of aerospace technology. Elements of the technology of flight.

EAS 4002L Aerospace Laboratory. W, S.
Credits: 1; Prereq: EAS 4106.
Laboratory experiments in aerospace engineering.

EAS 4105 Applied Aerodynamics 2. S.
Credits: 4; Prereq: EAS 3001 or consent of instructor.
Aircraft performance, aerodynamic design data, and elements of stability and control.

EAS 4106 Low Speed Aerodynamics. F.
Credits: 5; Prereq: EGN 3353 and EGM 4312.
Basic equations of motion for the flow of an incompressible fluid. Potential flow, boundary layer theory and turbulence. Applications to problems in low speed aerodynamics. Wind tunnel experiments.

EAS 4112 High Speed Aerodynamics. W.
Credits: 5; Prereq: EGN 3353, EGM 4312 and EML 3100.
Basic equations of motion for the flow of a compressible fluid. Isentropic flow, normal and oblique shock waves, linearized flows, method of characteristics. Applications to problems in high speed aerodynamics.

EAS 4122 Wing and Airfoil Theory. S.
Credits: 4; Prereq: EAS 4106 and EAS 4112 or consent of instructor.
Selected topics in the theory of flight. Included are airfoil theory and Prandtl's lifting line theory for low speed, high aspect radio wings.

EAS 4200 Aerospace Structures 1. S.
Credits: 5; Prereq: EAS 3001 and EGM 3400; Coreq: EGM 3520.
Types of flight structures. Flight and dynamic loads. Bending and shear analysis of flight structures. Lecture, laboratory and problem solving sessions.

EAS 4201L Aerospace Structures Laboratory. F, W.
Credits: 1; Prereq: EAS 4200.
Experimental methods of stress determination in flight structures. Proof test of structures and demonstration of failure modes.

EAS 4210 Aerospace Structures 2. F.
Credits: 5; Prereq: EAS 4200.
Elastic analysis of flight structures. Matrix methods for deflections and indeterminate analyses. Use of computers in solutions.

EAS 4220 Aerospace Structures 3. W.
Credits: 4; Prereq: EAS 4200.
Allowable loads and strength analysis. Practical problems in strength checking of structural components. Design choices in structural materials and configurations.

EAS 4230 Introductory Aeroelasticity. W.
Credits: 3; Prereq: EAS 4200 and EAS 4106.
Vibrations in typical flight structures. Self-excited aeroelastic systems. Stability of oscillating system. Fundamentals of surface flutter. Static aeroelastic effects. Acoustics in aero-space applications.

EAS 4240 Aerospace Structural Composites 1.
Credits: 3; Prereq: EMA 3010 and EAS 4200.
Various types and applications of structural composites used in flight structures. Introduction to analysis of structural composites.

EAS 4300 Aerospace Propulsion 1. S.
Credits: 5; Prereq: EAS 4112.
Diabatic flow; jet augmentation; the propeller; the turbojet, the ramjet; rockets. Performance criteria for propulsion systems. Cooling systems. Liquid and solid fueled rockets. Ion and photon rockets.

EAS 4310 Aerospace Propulsion 2. W.
Credits: 3; Prereq: EAS 4300.
Requirements for propulsion systems on space missions. High specific impulse systems: nuclear rocket; electric propulsion. Special space applications.

EAS 4400 Stability and Control of Aircraft.
Credits: 4; Prereq: EGM 4312 and EAS 4105.
Static stability and control; equations of motion; stability derivatives; stability of longitudinal and lateral motion of aircraft.

EAS 4412 Principles of Guidance and Control.
Credits: 3; Prereq: EGM 3311 or consent of instructor.
Review of current missile guidance systems. Relations between guidance and control. The control function: open and closed loop servo systems. Detection and information gathering as a factor in guidance precision.

EAS 4510 Problems in Astronautics. S.
Credits: 3; Prereq: EGM 4312.
Newtonian orbits; celestial coordinate systems. Observations in the solar system. Review of astrophysics. Instruments used in space science.

EAS 4602 Elements of Manned Atmospheric and Space Flight. S.
Credits: 3
Introduction to man's requirements in atmospheric and space flight. An engineering approach to psychic stress relief and physiological well-being in the aerospace environment.

EAS 4700 Aerospace Design 1. W.
Credits: 3; Prereq: EAS 4106 and EAS 4200.
Application of the principles of analysis and design to aerospace vehicle problems.

EAS 4710 Aerospace Design 2. S.
Credits: 3; Prereq: EAS 4700.
Second part of EAS 4700-4710

EAS 4803 Instrumentation for Aerospace Engineers. S.
Credits: 3; Prereq: EEL 3001 or consent of instructor.
An introduction to the techniques of modern instrumentation for aerospace testing, research and development.

EAS 4905 Individual Study in Aerospace Engineering. F, W, S, SS.
Credits: 1 to 6. May be repeated to a maximum of 12 credits. Prereq: Recommendation of Department Chairman.
Selected problems or projects in the student's major field of engineering study.

EAS 4933 Senior Seminar. F, W, S, SS.
Credits: 1; Prereq: 4EG classification.
Student presentations and discussions on subjects of current and continuing interest in engineering science and aerospace engineering.

EAS 4939 Special Topics in Aerospace Engineering. F, W, S, SS.
Credits: 1 to 6; Prereq: Permission of instructor. May be repeated with change in content to a maximum of 12 credits.

EAS 4949 Co-op Work Experience. F, W, S, SS.
Credits: 1††; Prereq: 4EG classification; One term of industrial employment including extra work according to a pre-approved outline.
Practical engineering work under industrial supervision, as set forth in College Regulations.

GRADUATE COURSES

EAS 6135 The Dynamics of Real Gases 1.
Credits: 3

EAS 6136 The Dynamics of Real Gases 2.
Credits: 3

EAS 6137 The Dynamics of Real Gases 3.
Credits: 3

EAS 6141 Advanced Plasma Topics.
Credits: 3

EAS 6142 Probe Techniques for Plasma Diagnostics.
Credits: 3

EAS 6221 Advanced Aerospace Structures 1.
Credits: 3

EAS 6222 Advanced Aerospace Structures 2.
Credits: 3

EAS 6223 Advanced Aerospace Structures 3.
Credits: 3

EAS 6241 Aerospace Structural Composites 2.
Credits: 3

EAS 6503 Astronautical Mechanics 1.
Credits: 3

EAS 6504 Astronautical Mechanics 2.
Credits: 3

EAS 6514 Near Earth Space Operations.
Credits: 3

EAS 6720 Advanced Aerospace Design.
Credits: 1 to 9

EAS 6804L Advanced Space Instrumentation Laboratory.
Credits: 1 to 9

EAS 6905 Aerospace Research.
Credits: 1 to 9

EAS 6910 Supervised Research.
Credits: 1 to 5††

EAS 6935 Graduate Seminar.
Credits: 1††

EAS 6939 Special Topics in Aerospace Engineering.
Credits: 1 to 9

EAS 6940 Supervised Teaching.
Credits: 1 to 5††

EAS 6971 Master's Research.
Credits: 1 to 15††

EAS 7980 Doctoral Research.
Credits: 1 to 15††

AGRICULTURE College of Agriculture

GENERAL AND CROSS-DEPARTMENTAL COURSES

AGG 1101 Introductions to Careers in the Agricultural Sciences. W, S.
Credits: 2
An introduction to the various educational programs within the Institute of Food and Agricultural Sciences with special emphasis on programs of study, academic requirements, professional standards, and career opportunities.

AGG 2501 Agriculture in the Environment. F, W, S.
Credits: 2
Non technical lectures on the comparative relationship of agriculture to ecology and environmental impact.

AGG 4603 Agricultural Communications. F, W, S.
Credits: 4
Lecture-laboratory. Basic instruction for agriculture majors in use of mass media and specialized media in agricultural information programs.

AGRICULTURAL AND EXTENSION EDUCATION College of Agriculture

INSTRUCTIONAL STAFF 1979-80

Beeman, C.E., Chairman; App, J.L.; Archer, B.B.; Becker, W.J.; Cole, M.J.; Cheek, J.G.; Farrington, W.S.; McGhee, M.B.; Scanlon, D.C.; Smith, M.J.; Straughn, A.A.; Summerhill, W.R.; Taylor, C.L.; Woeste, J.L.

AEE 3200 Instructional Techniques in Agricultural Education. F, W, S, SS.
Credits: 4; Prereq.: AEE 3323
Introduction to general techniques of teaching, selection of procedures, instructional resource management, learning environment and activities, student-teacher rapport, media and materials, and evaluation.

AEE 3313 Development and Role of Extension Education. F, S.
Credits: 4
Extension philosophy, programs, methods and leadership principles; history of federal, state and local leadership in the development of the cooperative extension service.

AEE 3323 Development & Philosophy of Agricultural Education. F, W, S, SS.
Credits: 4
An analysis of evolving concepts and philosophies of agricultural education programs with emphasis upon history, legislation, and principles underlying organization and practice.

AEE 4224 Special Methods in Teaching Vocational Agriculture. W, S, SS.
Credits: 4; Prereq.: AEE 3200 and AEE 3323; Coreq.: AEE 4424.
Organization of the subject matter and methods of teaching agriculture.

AEE 4227 Laboratory Practices in Teaching Agricultural Education. W, SS.
Credits: 4, Prereq.: AEE 3323, AEE 3200, MAG 3220, MAG 4225
Laboratory practices in teaching mechanics and other operative skills, conducting field and laboratory classes, providing space and teaching facilities.

AEE 4424 Agricultural Youth Programs. W, S.
Credits: 4; Prereq.: AEE 3323 or 3313
Designed to develop understanding and abilities in conducting 4-H, FFA, and other agricultural youth programs.

AEE 4504 Organization of Agricultural Education Programs. F, S, SS.
Credits: 4; Prereq.: AEE 3323
Principles and practices used in designing courses of instruction for effective teaching and total program development.

AEE 4624 Career and Pre-Vocational Education in Agriculture. F.
Credits: 4; Prereq.: AEE 3323
Philosophy and operational procedures of career and pre-vocational education in agriculture with particular emphasis on the Junior High or Middle School agriculture program, program design, objectives, articulation with existing programs, clientele, methods and procedures.

††Grading is on S-U basis only.

AGRICULTURAL ENGINEERING

AEE 4905 Individual Work in Agricultural and Extension Education. F, W, S, SS.
Credits: 1 to 8; Prereq.: Consent of the Instructor.
Topics and special problems selected from such fields as 4-H and FFA work, demonstrations, farm and home management, rural development, and preschool planning and post school evaluation and planning.

AEE 4941 Full Time Practical Work Experiences in Agricultural and Extension Education. F, W, S, SS.
Credits: 1 to 4††; Prereq.: Prior arrangements with advisor, approval of Department Chairman and Dean.
Practical work must be a new experience and related to the field of study.

AEE 4942 Agricultural and Extension Education Practicum. F, S.
Credits: 2 to 12; Prereq.: Senior standing and consent of the department chairman.
An individualized program whereby students are apprenticed to proper officials to gain practical experience in agribusiness and natural resources education, agricultural and extension programs at the County level and agribusiness experience in selected agricultural organizations.

AEE 4943 Agricultural Extension Practicum. F, W, S, SS.
Credits: 2 to 12; Prereq.: Senior standing and consent of the Department Chairman.
An individualized program whereby students are apprenticed to proper officials to gain practical experience in the agricultural extension program at the county level.

GRADUATE COURSES

AEE 5643 Comparative Extension Education.
Credits: 4

AEE 6206 Advanced Instructional Techniques in Agricultural and Extension Education. W, SS.
Credits: 4

AEE 6300 Methodology of Planned Change.
Credits: 4

AEE 6325 History and Philosophy of Agricultural Education.
Credits: 4

AEE 6417 Advanced Agricultural and Extension Leadership.
Credits: 4

AEE 6516 Program Development and Evaluation in Extension.
Credits: 4

AEE 6521 Agricultural and Extension Education Through Group Action.
Credits: 4

AEE 6523 Planning Community and Rural Development Programs
Credits: 4

AEE 6541 Developing Curriculum Materials in Agricultural and Extension Education.
Credits: 4; Prereq: AEE 6206

AEE 6606 Principles and Practices of Extension Education.
Credits: 4

AEE 6611 Agricultural and Extension Adult Education.
Credits: 4

AEE 6704 Extension Administration and Supervision.
Credits: 4

AEE 6905 Problems in Agricultural and Extension Education.
Credits: 1 to 4; max. of 12.

††Grading is on S-U basis only.

AEE 6910 Supervised Research.
Credits: 1 to 5††

AEE 6912 Non-thesis Research in Agriculture and Extension Education.
Credits: 1 to 5.

AEE 6933 Seminar in Agricultural and Extension Education.
Credits: 1

AEE 6935 Topics in Agricultural and Extension Education.
Credits: 1 to 4.

AEE 6940 Supervised Teaching.
Credits. 1 to 5††

AEE 6946 Supervised Occupational Experiences in Agricultural Education.
Credits: 4

AEE 6971 Master's Research.
Credits: 1 to 9††

AGRICULTURAL ENGINEERING
College of Agriculture
College of Engineering

INSTRUCTIONAL STAFF 1979-80

Zachariah, G.L., Chairman; Bagnall, L.O.; Baird, C.D.; Bottcher, A.B.; Buffington, D.E.; Campbell, K.L.; Chau, K.V.; Choate, R.E.; Fluck, R.C.; Jones, J.W.; Mishoe, J.W.; Myers, J.M.; Nordstedt, R.A.; Overman, A.R.; Rogers, C.J.; Shaw, L.N.; Smajstrla, A.G.; Smerage, G.H.

AGE 4012 Analytical and Professional Methods for Agricultural Engineering. F.
Credits: 4
Creative and functional design methods; economic principles, management techniques and systems analysis for agricultural engineering systems; professional responsibilities of agricultural engineers.

AGE 4023 Agricultural Energetics. S.
Credits: 3
Energy and agriculture, identification and measurement of energy flows in agricultural systems, concepts and tools, relationships, evaluation of alternatives.

AGE 4112 Agricultural Tractors and Power Units. S.
Credits: 3; Prereq: EML 3100 and AGE 4012.
Functional requirement, characteristics, and design of tractive, mobile, and stationary agricultural power units.

AGE 4121 Agricultural Field Machines. F.
Credits: 5; Prereq: EGM 3400 and EGM 3520; AGE 4012.
Machines and mechanized systems for agricultural production; functional requirements, operating characteristics, and component design including mechanical and hydraulic drives.

AGE 4142 Hydraulic Power Transmission and Control Systems. F.
Credits: 3; Prereq: Engineering Classification or permission from instructor.
Transmission and control of loads with hydraulic power circuits, controls, activators, motors, and fluid-servo systems. Application of agricultural and industrial machinery.

AGE 4212 Soil and Water Conservation Engineering. W.
Credits: 4; Prereq: EGN 3353 or ECI 3213.
Basic hydrology; flow through porous media, flood routing and grade control structures for soil and water conservation.

AGE 4232 Drainage and Irrigation Engineering. S.
Credits: 4, Prereq: EGN 3353 or ECI 3213.
The design of agricultural land drainage and irrigation systems.

AGE 4321C Environmental Control Design for Agricultural Structures. S.
Credits: 4; Prereq: AGE 4412, AGE 4612, EGM 3520.
Engineering design and analysis of environmental modification systems and structures for the production of plants and animals and the processing and storage of food products.

AGE 4411C Food and Agricultural Process Engineering. W.
Credits: 4; Prereq: AGE 4612.
Principles of handling and processing food and agricultural products with emphasis on the functional requirements and design of equipment and systems.

AGE 4413C Postharvest Operations Engineering. S.
Credits: 3; Prereq: AGE 4612.
Engineering principles and practices of postharvest operations for the maintenance of quality of agricultural products. Design of systems and facilities.

AGE 4612 Heat and Mass Transfer in Biological Systems. F.
Credits: 4; Prereq: EGN 3353 or ECI 3213.
Transfer phenomena, steady and unsteady state heat conduction, radiation, free and forced convention, mass transfer, psychometrics, thermodynamics of biological processes.

AGE 4712 Animal Waste Management. F.
Credits: 5; Prereq: 4EG or consent of instructor.
Engineering analysis and design of systems for the handling, treatment, utilization and disposal of livestock and poultry wastes. Laboratory analysis of animal wastes, waste waters, receiving waters and soils used as a disposal medium.

AGE 4905 Special Problems in Agricultural Engineering. F, W, S, SS.
Credits: 1 to 6: May be repeated up to a maximum of 12 credits in the course. Prereq: Recommendation of Department Chairman. Selected problems or projects in the student's major field of engineering study.

AGE 4932 Special Topics. F, S.
Credits: 2 to 5; Prereq: permission of instructor.
Variable subject content providing for the study of agricultural engineering topics not offered in other courses. May be repeated up to a maximum of 10 credits.

AGE 4949 Co-Op Work Experience.
Credits: 1††; Prereq: 4EG Classification; one term industrial employment, including extra work according to preapproved outline.
Practical engineering work under industrial supervision, as set forth in the College of Engineering Regulations.

Engineering: Civil

ECI 4630 Hydrology. F.
Credits: 3; Prereq: EIN 3114, STA 3032, ECI 3213 or EGN 3353.
The concept of the hydrologic cycle. The occurrence, distribution, and movement of water over, through, and beneath the earth's surface. Those segments of hydrology pertinent to the design and operation of engineering projects for the control and use of water are emphasized.

GRADUATE COURSES

AGE 5643C Biological and Agricultural Systems Analysis. W.
Credits: 4; Prereq: MAC 3312.
Conceptual and mathematical descriptions of systems; concepts and analysis of system behavior; physiological, populational, agricultural, and environmental applications.

AGE 5646 Biological and Agricultural Systems Simulation. S.
Credits: 4; Prereq: MAC 3312, COP 3110 or 3212.
Prediction of biological and agricultural systems

behavior by digital computer simulation of system mathematical models; CSMP and GASP IV languages.

AGE 6031 Instrumentation in Agricultural Engineering Research.
Credits: 4

AGE 6152 Advanced Farm Machinery.
Credits: 4

AGE 6252 Advanced Soil and Water Management Engineering.
Credits: 4

AGE 6332 Advanced Agricultural Structures.
Credits: 4

AGE 6442 Advanced Agricultural Process Engineering.
Credits: 4

AGE 6905 Non-Thesis Research in Agricultural Engineering.
Credits: 1 to 5

AGE 6910 Supervised Research.
Credits: 1 to 5††

AGE 6931 Seminar.
Credits: 1††

AGE 6933 Special Topics in Agricultural Engineering.
Credits: 1 to 6

AGE 6940 Supervised Teaching.
Credits: 1 to 5††

AGE 6971 Master's Research.
Credits: 1 to 15††

AGE 6986 Research Methods in Agricultural Engineering.
Credits: 3

AGRONOMY
College of Agriculture

INSTRUCTIONAL STAFF 1979-80

Dean, C.E., Chairman; Allen, L.H.; Barnett, R.D.; Bennett, J.M.; Boote, K.J.; Brecke, B.J.; Brolmann, J.B.; Chourey, P.S.; Currey, W.L.; Dean, C.D.; Dudeck, A.E.; Dunavin, L.S.; Duncan, W.G.; Edwardson, J.R.; Ennis, W.B., Jr.; Fritz, G.J.; Gallaher, R.N.; Garrard, L.A.; Gascho, G.J.; Gaskins, M.H.; Goddard, R.E.; Gorbet, D.W.; Green, V.E., Jr.; Haller, W.T.; Hinson, K.; Hollis, C.A.; Horner, E.S.; Johnson, J.T.; Jones, D.W.; Kalmbacher, R.S.; Kidder, G.; Knauft, D.A.; Kretschmer, A.E., Jr.; leGrand, F.; McCloud, D.E.; Mislevy, P.; Mott, G.O.; Norden, A.J.; Ocumpaugh, W.R.; Pfahler, P.L.; Popenoe, H.L.; Prine, G.M.; Quesenberry, K.H.; Rodgers, E.G.; Ruelke, O.C.; Schank, S.C.; Schroder, V.N.; Smith, R.L.; Sutton, D.L.; Teem, D.H.; West, S.H.; Whitty, E.B.; Wilcox, M.; Wright, D.L.

AGR 3210 Field Crop Science. F.
Credits: 4
Fundamentals of adaptation, improvement, production, and utilization of major field crops.

AGR 3303 Genetics. F, W, S, SS.
Credits: 5; Prereq: An introductory course in Botany, Zoology, or Biological Sciences.
The science and physical basis of inheritance, genes as units of heredity and development, and the qualitative and quantitative aspects of genetic variation.

AGR 4001C Man's Major Food-Crop Resources. F.
Credits: 4; Prereq: A basic course in agriculture, biological sciences, or natural resources.
World population, land resources, and agricultural ecosystems. Crop climatology, crop geography, and crop yields. Present and projected levels of food production in the developed and developing countries.

AGR 4231 Forage and Pasture Science. W, S.
Credits: 5
Scientific and technological developments in the selection, production, and utilization of forage crops, and in the development and management of grazing areas.

AGR 4242 Rice. S.
Credits: 5; Prereq: AGR 3210 and BOT 3503, or equivalent.
Characteristics, production practices, pest control, physiological development, processing, and utilization of world rice crop.

AGR 4244 Sugarcane. W. (Even years)
Credits: 4; Prereq: AGR 3210 and BOT 3503.
Morphology and anatomy of sugarcane. Role of plant nutrients and cultural practices. Diagnostic techniques. Principal diseases and pests affecting yield.

AGR 4246 Oilseed Crops. S.
Credits: 4; Prereq: AGR 3210, BOT 3023, or equivalent.
Economically important oilseed plants, with emphasis on characteristics, production practices, physiological and biochemical development, processing, and utilization.

AGR 4248 Fiber Crops
Credits: 4; Prereq: AGR 3210, BOT 3503, or equivalent.
Characteristics, production practices, physiological development, processing, and utilization of plant fibers having commercial importance in their natural or modified form.

AGR 4321 Plant Breeding. W.
Credits: 4; Prereq: AGR 3303.
The science and technology of plant improvement.

AGR 4905 Problems in Agronomy. F, W, S, SS.
Credits: 1 to 3. Maximum 6; Prereq: Minimum of one course in Agronomy and consent of instructor.
Scientific study of individual problems in crop production, weed science, genetics, or plant breeding.

AGR 4931 Agronomy Seminar. F, S.
Credits: 1
Preparation, presentation, discussion of latest Agronomic advances. Required of all students majoring in Agronomy.

AGR 4941 Work Experience in Agronomy. F, W, S, SS.
Credits: 1 to 4; S-U Grade only. Prereq: Prior arrangement with adviser and approval of Department Chairman and Dean.

The Agronomy Department also offers additional courses as identified below which are listed under the heading of "Plant Sciences — General" in this catalog:

PLS 2031 Fundamentals of Crop Production. F, S.
Credits: 4
(Offered jointly with the Vegetable Crops Department).

PLS 4601 Weed Science. F.
Credits: 4

PLS 4613 Aquatic Weed Control. SS.
Credits: 3

PLS 4701 Field Plot Techniques. W.
Credits: 3

PLS 5652 Herbicide Technology. W.
Credits: 4

PLS 6623 Weed Ecology. S. (Odd Years)
Credits: 3

GRADUATE COURSES

AGR 6233 Tropical Pasture and Forage Science. F.
Credits: 5

AGR 6237 Agronomic Methods of Forage Evaluation. SS. (Even years).
Credits: 4

AGR 6249 Crop Plants in Tropical Environments.
Credits: 12

AGR 6307 Advanced Genetics. W. (Odd years).
Credits: 4

AGR 6311 Population Genetics. F. (Odd years).
Credits: 3

AGR 6323 Advanced Plant Breeding. S.
Credits: 4

AGR 6353 Cytogenetics. W. (Even years).
Credits: 5

AGR 6380 Genetics Seminar. W, S.
Credits: 1

AGR 6390 Topics in Genetics.
Credits: 2 to 4

AGR 6422 Crop Nutrition. S
Credits: 4

AGR 6442 Physiology of Agronomic Plants. W.
Credits: 4

AGR 6511 Crop Ecology. S.
Credits: 5

AGR 6661C Sugarcrane Processing Technology. W. (Odd years).
Credits: 4

AGR 6751 Biochemistry of Herbicides. S. (Even years).
Credits: 3

AGR 6905 Agronomic Problems. F, W, S, SS.
Credits: 1 to 6; max. of 12 credits.

AGR 6910 Supervised Research. F, W, S, SS.
Credits: 1 to 5††

AGR 6932 Topics in Agronomy. SS.
Credits: 2 to 4; max. of 12 credits.

AGR 6933 Graduate Agronomy Seminar. F, W, S.
Credits: 1

AGR 6940 Supervised Teaching. F, W, S, SS.
Credits: 1 to 5††

AGR 6971 Master's Research. F, W, S, SS.
Credits: 1 to 15††

AGR 7980 Doctoral Research. F, W, S, SS.
Credits: 1 to 15††

AMERICAN STUDIES
College of Arts and Sciences

MAJOR COMMITTEE 1979-80

Conroy, S.S., Chairman; Chalmers, D.M.; Foreman, R.C.; Hill, S.; Thompson, I.; Turner, E.R.; Williams, D.E.

Majors will be required to take at least fifty (50) hours of acceptable courses — half of which must be numbered 3000 or above — including the required American Studies courses AMS 2030, Introduction to American Studies, AMH 4041 Studies in American Civlization, AMH 4935 Undergraduate Seminar in American Civilization. Majors are also required to take a sequence of courses reflecting the temporal span of American civilization. No more than twenty-four hours from the Humanities or the Social Sciences and no more than four courses from one discipline may be submitted.

††Grading is on S-U basis only.

Descriptions

ANIMAL SCIENCE

Acceptable Humanities courses include ARH 3605, 3613, 3614; EDF 3514, 4542; AML 2020, 2021, 3113, 4210, 4301; ENG 3221, 3222, 4745; LIT 3321, 3342; AMH 2010, 2020, 3315, 3421, 3422, 3423, 4041, 4110, 4130, 4160, 4170, 4172, 4220, 4231, 4270, 4307, 4309, 4402, 4403, 4423, 4444, 4460, 4530, 4546, 4547, 4572, 4578, 4579, 4935; HES 4103; HIS 4472; MUH 4116, 4561; PHP 3780; PHH 4703; REL 3121, 3122, 3130, 3322, 4120, 4134.

Acceptable Social Science courses include ANT 2410, 4153, 4312; BES 2351; ECO 2620, 4622; ECP 4143; GEA 3210, 3223, 3270; INR 3102, 3103, 4114; POS 2041, 2112, 3122, 3142, 3173, 3413, 3443, 3606, 4603, 4604, 4624; POT 3314; PUP 4003, 4313, 4404; MAF 4501; SOC 2000, 2020, 3745, 4720; SPC 4620.

Acceptable Interdisciplinary courses include AFA 2000, 4936, 4937.

Students seeking advisement should contact Professor Stephen Conroy in Room 4117, General Purpose Building "A". Honors will be awarded to any student who earns a grade point average of 3.5 or higher in upper division and major work and completes an individual project in AMH 4935 of honors caliber.

American History

AMH 3315 American Popular Culture to 1970. W, SS.
Credits: 4
A survey of the interests and amusements of the common man in the United States from the camp meeting to the rock festival, from the tent show to the television program.

AMH 4041 Studies in American Civilization. F, W.
Credits: 4
Examination of selected periods of U.S. history using concepts and data from several related disciplines. Required for the American Studies Program. May be repeated with a change of content up to a maximum of 8 credits.

AMH 4935 Undergraduate Seminar in American Civilization. S.
Credits: 4
A continuation of AMH 4041 with emphasis on individual projects. May be repeated with a change of content up to a maximum of 8 credits.

American Studies

AMS 2030 Introduction to American Studies. F, W, S.
Credits: 4
An introduction to the problems, themes and methods of American Studies. Concepts such as national character and popular culture are examined, and unifying myths and symbols such as the frontier are used to illustrate the ways in which American civilization as a whole may be approached.

AMS 4905 Individual Study. F, W, S, SS.
Credits: 1 to 5
Individual interdisciplinary projects in American Studies. May be repeated with a change of content up to a maximum of 10 credits.

ANIMAL SCIENCE
College of Agriculture

INSTRUCTIONAL STAFF 1979-80

Wallace, H.D., Chairman; Ammerman, C.B.; Arrington, L.R.; Asquith, R.L.; Bazer, F.W.; Carpenter, J.W.; Combs, G.E., Jr.; Copelin, J.L.; Davis, G.K.; Feaster, J.P.; Fields, M.J.; Hargrove, D.D.; Hentges, J.F., Jr.; Koger, M.; Lieb, S.; Loggins, P.E.; Moore, J.E.; Olson, T.A.; Ott, E.A.; Palmer, A.Z.; Sharpe, D.C.; Shirley, R.L.; Wakeman, D.L.; Warnick, A.C.; West, R.L.

††Grading is on S-U basis only.

Animal Science

ANS 2002 The Meat We Eat, F, W, S.
Credits: 2
Only open to students not majoring in Animal Science. Consumer oriented. Meat as a food, its inspection for wholesomeness, meat grading, identification, processing, selection, preparation and serving. Preparation of economical, nutritious and palatable meals centered around meat will be emphasized.

ANS 3007 Principles of Livestock Production. F, W, S.
Credits: 4
The basic course for Animal Science majors. The fundamentals of breeding, feeding, management and marketing of beef cattle, swine, sheep and horses.

ANS 3079 Relationship of Form to Function in Horses. F.
Credits: 1; Prereq: ANS 3236 or ANS 4234 or consent of instructor.
Principles of conformation and anatomy affecting the performance of the horse and essentials of animal selection.

ANS 3236 Horse Production. W, SS.
Credits: 4
Basic and applied principles of Horse Production.

ANS 4234C Horse Enterprise Management. S.
Credits: 4; Prereq: ASG 3313, ASG 3403, ASG 3404, VES 3202 or permission of the instructor.
Management principles essential to the planning and operation of commercial Horse Enterprise.

ANS 4238 Horse Psychology and Training. F.
Credits: 2; Prereq: ANS 3236 or ANS 4234 or consent of instructor.
Basic principles and skills in the use of psychology and training techniques for breaking the young horse.

ANS 4244 Beef Cattle Enterprise Management. F, S.
Credits: 5; Prereq: AEB 3133, AGR 4231, ASG 3313, ASG 3403, ASG 3404 or permission of the instructor.
Application of basic scientific principles in the planning and management of all types of beef cattle enterprises.

ANS 4264 Swine Production. W, SS.
Credits: 3; Prereq: ASG 3403, ASG 3404.
Selection, feeding and management of hogs; forage crops and grazing, disease and parasite control.

ANS 4274 Sheep Production. W.
Credits: 2; Prereq: ASG 3313, ASG 3403, ASG 3404.
Sheep production and management in Florida and the United States, marketing and wool grading.

ANS 4614 Livestock and Carcass Evaluation. F, S.
Credits: 3; Prereq: ASG 3007.
Classifying, grading, and judging carcasses; grading and evaluation of feeder and slaughter animals.

ANS 4615 Meat Selection and Grading. F, W.
Credits: 1; Maximum 3 credits.
Fundamentals in grading and classifying carcasses and cuts of meat from beef, pork and lamb. Includes field trips to packing plants and exercises in practical grading and selection.

ANS 4634C Meats. F, W.
Credits: 4; Prereq: ANS 3007 or ASG 3003
Slaughtering, cutting and quality of meat as related to production programs with livestock.

ANS 4635 Meat Processing. S.
Credits: 4; Prereq: FOS 4513, and MAC 1132.
Methods used for processing and the Federal and State regulations for meat.

ANS 4941 Full-time Practical Work Experience in Animal Science. F, W, S, SS.
Credits: 1 to 4††; Prereq: Prior arrangement with adviser, approval of Department Chairman and Dean. Credit will be earned on the basis of one hour per month of employment.

GRADUATE COURSES

ANS 5446 Animal Nutrition. F.
Credits: 5; Prereq: ASG 3403, ASG 3404, BCH 3023 or permission of instructor.

ANS 6288 Experimental Technics and Analytical Procedures in Meat Research.
Credits: 4

ANS 6368 Quantitative Genetics.
Credits: 5

ANS 6388 Genetics of Animal Improvement.
Credits: 4

ANS 6448 Nitrogen and Energy in Animal Nutrition.
Credits: 4

ANS 6458 Advanced Methods in Nutrition Technology.
Credits: 4

ANS 6472 Vitamins.
Credits: 4

ANS 6636 Meat Technology.
Credits: 4

ANS 6711 Equine Nutrition and Physiology.
Credits: 4

ANS 6715 Ruminant Nutrition and Digestive Physiology.
Credits: 3

ANS 6721 Non-Ruminant Metabolism.
Credits: 3

ANS 6723 Mineral Nutrition and Metabolism.
Credits: 4

ANS 6751 Physiology of Reproduction.
Credits: 5

ANS 6905 Problems in Animal Sciences.
Credits: 1 to 6

ANS 6910 Supervised Research.
Credits: 1 to 5

ANS 6932 Topics in Animal Science.
Credits: 4

ANS 6933 Graduate Seminar in Animal Science.
Credits: 1

ANS 6940 Supervised Teaching.
Credits: 1 to 5††

ANS 6971 Master's Research.
Credits: 1 to 15††

ANS 7980 Doctoral Research.
Credits: 1 to 15††

ANIMAL SCIENCES-GENERAL
College of Agriculture

Cross Departmental Courses Wallace, H.D., Chairman.

The three Departments of Animal, Poultry and Dairy Sciences have combined the following cross-departmental courses taught by the staff of the three Departments:

ASG 3003 Introduction to Animal Science, F, W, S, SS.
Credits: 5
Market types and classes of livestock; breeds of livestock, dairy and poultry, and the fundamentals of Animal, Dairy and Poultry Science.

ASG 3313 Principles of Animal Breeding. W, S.
Credits: 5; Prereq: AGR 3303 or ANS 3007.
The basic principles of breeding and genetics as

applied to animals used for the production of food.

ASG 3403 Principles of Animal Nutrition. F, W, S, SS.
Credits: 3; Prereq: BCH 3023 or CHM 2043.
The nutrients required by animals, their functions, and the processes of their utilization.

ASG 3404 Applied Animal Nutrition. F, W, S, SS.
Credits: 3; Prereq: ASG 3403.

ASG 4334 Reproduction in Farm Animals. W, SS.
Credits: 4; Prereq: VES 3202 or permission of instructor.
Principles of reproduction in avian and mamallian farm animals including factors related to the estrous cycle pregnancy, semen-production, artificial insemination, pregnancy diagnosis and environmental factors affecting reproduction.

ASG 4931 Seminar. F, W, S, SS.
Credits: 1; Prereq: Senior classification.
Preparation and presentation of papers on an approved subject of major interest.

ASG 4992 Livestock, Dairy and Poultry Judging. F, W, S.
Credits: 1. Maximum 3 credits. Prereq: ASG 3003 or ANS 3007.
Special Training in livestock and dairy judging and classification; judging poultry and poultry products.

GRADUATE COURSES

ASG 5221 Animal Production in the Tropics. F.
Credits: 4; Prereq: ASN 4244, ASN 4264, DAS 3211 or permission of instructor.

ANTHROPOLOGY
College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1979-80

Bernard, H.R., Chairperson; Burns, A.F.; Dougherty, M. Doughty, P.L.; du Toit, B.M.; Eddy, E.M.; Fairbanks, C.H.; Foodym, D.; Hansen, A.; Hardman-de-Bautista, M.J.; Kimball, S.T.; Kramer, S.; Lawless, R.; Lieberman, L.S.; Magnarella, P.J.; Maples, W.R.; Margolis, M.L.; Markel, N.N.; Milanich, J.T.; Nunez, T.A., Jr.; Oliver-Smith, A.; Purdy, B.A.; Rice, P.M.; Spring, A.; Taylor, C.D.; von Mering, O.O.; Wagley, C.W.; Wing, E.S.

An undergraduate departmental major must have a minimum of 45 quarter hours, including ANT 2410 (or ANT 2402), ANT 2141, ANT 2610 and ANT 3511. All undergraduates should contact the department academic adviser soon after enrollment in the University. To be admitted to the major, a student normally must have a 2.5 overall and a 3.0 social science grade point average.

DEPARTMENTAL HONORS

Departmental honors may be earned by students in the department who have at least a 3.0 GPA in their upper division courses, and 3.5 GPA in Anthropology courses, who, with the permission of the faculty undergraduate honors adviser, elect to take an advanced seminar, in a topical area of their choice. In a subsequent quarter the student must register for three hours of ANT 4914 (Departmental Major Honors). Under the direction of his honors adviser the student will write an honors essay on a topic suggested by the previous advanced course. The undergraduate honors adviser is appointed each year by the department chairman from the faculty.

African Studies

AFS 2002 The African Experience — An Introduction to African Studies. F, W, S.
Credits: 4
An introductory interdisciplinary study of African society and culture that examines the richness, diversity, and time-depth of African civilizations.

Marriage and Family

MAF 2402 Human Sexuality and Society. F, S, SS.
Credits: 4
The course examines (1) development of an individual's sexuality and sexual identity throughout the life cycle and (2) aspects of sexuality cross-culturally. Sexual anatomy and functioning, gender roles, and the interplay of behavior and values (sexual ethics) are discussed.

Anthropology

ANT 2141 The Development of World Civilization. F, W, SS.
Credits: 4
Discussion of archeological evidence for the development of civilization in its regional variants from the earliest beginning to the dawn of written history. Analyzes causes of cultural development in Old and New World Centers.

ANT 2149 Lost Tribes and Sunken Continents. W.
Credits: 4
This course examines the claims of popular writers in archeology that "mysterious" archeological sites, statues, etc. were influenced by outer space visitors. Problems of diffusion. Discussed are Stonehenge, pyramids, Easter Island, "Maya spaceships", Atlantis and Mu, Nazca Linos and so forth.

ANT 2332 Peoples of Latin America. F.
Credits: 4
An introduction to Latin American Peoples; native culture areas and high civilizations. Metropolitan Hispanic culture and cultural syncretism in selected and geographically varied nation-states, selected urban and peasant subcultures.

ANT 2402 Anthropology and Modern Life. F, S, SS.
Credits: 5
The anthropological perspective, theories, methods, applied to contemporary circumstances. The individual and the group, social groups, institutions, world view, cross-cultural perspectives, cultural transformations.

ANT 2410 Cultural Anthropology. F, W, S, SS.
Credits: 5
The nature of culture. The content of cultures; languages, subsistence, economic structures, art and religion in human societes. The integration of culture.

ANT 2451 Racial and Cultural Minorities. W.
Credits: 4
A survey of racial and cultural minority group contacts, inter-group relations, conflicts, the nature of prejudice, and the problems of minority groups in the contemporary world. Examples will be taken from North and South America, Africa, and India.

ANT 2610 Language and Culture. F, S.
Credits: 5
The role of speech in individual, social and cultural settings. Linguistic basis of thought and perception. Mythological studies and analysis. Bilingualism, biculturalism and minority language politics in current perspective.

ANT 2930 Special Topics in Anthropology. F, W, S.
Credits: 3 to 5
Rotating topics. With permission, may be repeated as topics change. Maximum of ten credits. Courses will present students with opportunities to study major social institutions in cross-cultural perspective. These will include religion, crisis and disasters, sexual behavior, social problems.

ANT 3142 Old World Prehistory. W.
Credits: 5
Archeological evidence for the evolution of human culture — Paleolithic cultures of Europe and Asia, domestication of plants and animals. Evolution of civilizations of Mesopotamia, Egypt, Southeast, Asia, China, India, Africa, Aegean, Europe — comparison of causes and trends.

ANT 3144 New World Prehistory. S.
Credits: 5
Peopling of North, Central, and South America. Development of civilization in major culture areas; comparison of archeological materials and trends of cultural evolution.

ANT 3241 Anthropology of Religion. F, S.
Credits: 4
Cross cultural survey of beliefs and practices dealing with the supernatural, magic, and religion. Conceptualization of the supernatural. Sacred specialists, their function and social position. Theories of comparative religion in the light of anthropological data.

ANT 3245 Death and Dying in Cross-Cultural Perspective. W.
Credits: 4
An examination of attitudes, beliefs, and behaviors associated with death and dying in various cultures of the world. A comparative approach to such topics as terminal illness, death rituals, mourning, grief, suicide, homocide, abortion, euthanasia, and life after death.

ANT 3302 Sex Roles: A Cross-Cultural Perspective. F, S.
Credits: 4
Anthropological perspective on division of labor by sex in different world societies. Variation in sex roles in economic, religious, political domains. Socialization and life cycle.

ANT 3390 Visual Anthropology. S.
Credits: 4; Prereq: Basic knowledge of photography or permission of instructor.
Uses photography and film as tools and products of social science. Ways of describing, analyzing and presenting behavior and cultural ideas through visual means. Student projects and laboratory work with visual anthropology.

ANT 3422 Ancestors and Descendants: Kinship and Genealogy. W, S.
Credits: 4
An introductory course which examines social behavior concerning relatives, kinship terminologies, and genealogies cross-culturally.

ANT 3432 Cross-Cultural Studies of Cognition. W.
Credits: 4
A cross-cultural comparison of the cognitive construction of individual life-space, social reality, and world view in primitive, tribal, peasant and contemporary industrial societies. Specifically the course deals with culturally conditioned aspects of intellectual funtioning and perceptually based behavior in everyday life.

ANT 3461 Folk Medicine. S.
Credits: 4
This course is exploratory and serves as an introduction to the traditional medical system of a people as it is influenced by beliefs and actions, nutrients and taboos and facilitated by specialists, folk-medicines, and avoidances. The interrelationships of traditional systems with the germ theory of disease, clinics and medical specialists and material medica are considered

ANT 3511 Physical Anthropology. F, W, S.
Credits: 5
Human evolution and the formation of races. Relationship with other primates. Human genetics, Anthropometry. Racial differences, distribution and history. Laboratories in human and non-human primate anatomy and physiology.

ANT 3630 Nonverbal Communication. W.
Credits: 5
This course examines the role of culture in conditioning speaking style and body language. It will examine these as a reflection of cultural norms in general, and the expression of these cultural norms in group and interpersonal communication specifically.

Descriptions

ANTHROPOLOGY

ANT 4035 Anthropological Theory. F.
Credits: 5; Prereq: One cultural anthropology course or permission of the instructor.
The hitory and development of anthropological theory. Methods in anthropological research. Directed reading of major theoretical publications.

ANT 4036 Current Anthropological Theory. W.
Credits: 5; Prereq: One cultural anthropology course or permission of the instructor.
Reading and discussion of current trends in anthropological literature. Emphasis on problems of research. Directed reading in major current publications.

ANT 4123 Laboratory Training in Archeology. F.
Credits: 5; Prereq: an introductory level archeology course.
Processing of data recovered in field excavations; includes cleaning, identification, cataloguing, classification, drawing, analysis, responsibilities of data reporting.

ANT 4124 Field Sessions in Archeology. S.
Credits: 8; Prereq: 8 hours of anthropology or permission of the instructor.
Excavation and archeological sites, recording of data, laboratory handling and analysis of specimens, and study of the theoretical principles which underlie field methods and artifact analysis.

ANT 4153 North American Archeology. S.
Credits: 5
The existing archeological materials relating to prehistoric North American cultures. The origins of the North American Indian. Historic Indian and colonial materials.

ANT 4155 Southeastern United States Archeology. W.
Credits: 5; Prereq: an introductory level archeology course.
The course surveys archeological materials relating to aboriginal occupation of the Southeastern United States from the Paleo-Indian period to the Historic horizon. Sites, artifacts, and cultural adaptations in the Southeast.

ANT 4158 Prehistoric Peoples of Florida. F.
Credits: 5
Archeological evidence for the evolution of Indian cultures from 10,000 B.C. to historic period with emphasis on descriptions of regional cultures after 500 B.C. Cultural ecology of different environmental regions, archeological materials, external relationships to Southeast and Circum-Caribbean area.

ANT 4185 Principles of Archeology. W.
Credits: 5; Prereq: One anthropology course.
The viewpoint and methods of archeology, especially as applied to New World materials. The archeological survey. Methods and techniques of excavation. Systems of chronological analysis.

ANT 4266 Economic Anthropology
Credits: 5; Prereq: One course in anthropology, or permission of instructor.
A consideration of economic philosophies and the behavioral bases of formal economic theories. Cross-cultural studies of production, distribution and consumption, money and the acquisition of goods. The latest materials from cultural ecology, marxism, formalism and substantivism are reviewed.

ANT 4274 Political Anthropology. F.
Credits: 4; Prereq: An introductory course in the social sciences or permission of the instructor.
The problem of identifying political behavior. Natural leadership in bands, tribes, and small groups. Acephalous societies and republican structures. Kingship and early despotic states. Theories of bureaucracy.

ANT 4304 Urban Ethnography. W.
Credits: 4; Prereq: One course in anthropology, or permission of the instructor.
Problems of rural-urban migration. Crosscultural, interdisciplinary approach to the non-western city. Comparative ecology of cities.

ANT 4312 The North American Indian. S.
Credits: 5
The peopling of North America and Early Man in the New World. The culture areas of North America. Unique characteristic, institutions, and problems of the peoples.

ANT 4326 Peoples of Mexico and Central America. W.
Credits: 4
The settlement and early cultures of the area with an emphasis on the rise of the major culture centers. The impact of European civilization and surviving Indians.

ANT 4336 The Peoples of Brazil. W.
Credits: 4.
Ethnology of Brazil. Historical, geographic, and socioeconomic material will be covered and representative monographs from the various regions of Brazil will be read. The contribution of the Indian, Portuguese and African to modern Brazilian culture.

ANT 4337 Peoples of the Andes. S.
Credits: 4
The area-cotradition. The Spanish Conquest. The shaping and persistence of colonial culture. Twentieth-century communities and their social, land tenure, religious, and value systems. Modernization, cultural pluralism, and problems of integration.

ANT 4338 The Tribal Peoples of Lowland South America. F.
Credits: 4.
Survey of marginal and tropical forest hunters and gatherers and horticulturalists of the Amazon Basin, Central Brazil, Paraguay, Argentina, and other areas of South America. Social organization, subsistence activities, ecological adaptations, and other aspects of tribal life will be covered.

ANT 4346 Peoples of the Caribbean. W.
Credits: 4.
Investigation into cultural contact that has taken place in the Caribbean and results of that contact in terms of peoples and sociocultural units produced and processes of cultural change involved.

ANT 4352 Peoples of Africa. W.
Credits: 4
An anthropological survey of the culture history and ethnographic background of the peoples of Africa. A basis for appreciation of current problems of acculturation, nationalism, and cultural survival and change among African peoples.

ANT 4354 The Anthropology of Modern Africa. S.
Credits: 4
Study of continuity and change in contemporary African societies with special reference to cultural and ethnic factors in modern nations.

ANT 4403 Environment and Cultural Behavior. F.
Credits: 4
The interaction of people and their environment as mediated by cultural institutions. Levels of socio-economic adaptation in hunting and gathering, pastoral, and agricultural societies. Warfare and ritual as ecological mechanisms.

ANT 4404 The Nature of Culture. SS.
Credits: 5
An advanced level introduction to theoretical Anthropology. The problems of universal functions. Pattern, structure and process. Models and cultural laws. Illustrative material from current ethnology. Recommended for majors.

ANT 4426 Social Organization. F.
Credits: 5; Prereq: ANT 2402 or ANT 2410.
Property concepts, forms and complexes. Tribal patterns of government and social control.

ANT 4433 Culture and Personality. F.
Credits: 5
The relationship between culture and personality. Benedict's, Malinowski's, and Mead's contributions, contemporary schools of thought up to and including studies of national character. Methods in culture and personality research.

ANT 4442 Urban Anthropology. F.
Credits: 4
A re-examination of basic concepts, models and theories dealing with the nature of the city. The approach is cross-cultural and interdisciplinary.

ANT 4464 Comparative Health Systems. S.
Credits: 4
An examination of beliefs and practices concerning health and illness in various societies. Disease etiology, role of the healer, concepts of prevention, organization or care, interaction of modern and traditional systems.

ANT 4476 Cults and Secret Societies. W.
Credits: 5
Study and analysis of the background, structure, and aim of cultural movements described as messianic, Nativistic, cargo, etc.

ANT 4525 Human Osteology and Osteometry. S.
Credits: 5; Prereq: ANT 3511 and consent of instructor.
Human skeletal identification for the physical anthropologist and archeologist. Techniques for estimating age at death, race, and sex from human skeletal remains. The measurement of human skeleton for comparative purposes.

ANT 4586 Human Evolution. W.
Credits: 4; Prereq: ANT 3511 and consent of instructor.
The data, methods, and theoretical problems found in human evolution.

ANT 4620 Anthropological Linguistics. F.
Credits: 5
The methods and techniques of descriptive linguistics. Language structure and process especially related to describing, understanding, and analyzing non-Western languages.

ANT 4905 Individual Work. F, W, S, SS.
Credits: 1 to 5; Prereq: Consent of instructor.
May be repeated to a maximum of 10 hours.

ANT 4907 Research Projects in Social, Cultural and Applied Anthropology. F, W, S, SS.
Credits: 1 to 5; Prereq: Consent of instructor. May be repeated with change of content up to a maximum of 10 credits.
For students undertaking directed research in supplement of regular course work or on special problems.

ANT 4914 Departmental Honors in Anthropology. F, W, S.
Credits: 3; Prereq: Consent of Undergraduate adviser.
Open to students meeting departmental honors criteria and normally taken in the Senior year. Students will develop special interests and write an essay based upon this research.

ANT 4930 Special Topics in Anthropology. F, W, S.
Credits: 3 to 5; Prereq: Instructor's permission or 10 credits of work in Anthropology.
Rotating topics. With permission, may be repeated as topics change. Maximum of 10 credits.

GRADUATE COURSES

ANT 5165 Introduction to Mesoamerican Prehistory.
Credits: 4

ANT 5175 Historical Archeology.
Credits: 5

ANT 5195 Zooarchaeology.
Credits: 5

ANT 5246 Ritual and Symbolic Systems.
Credits: 5

ANT 5255 Peasant Society and Culture. W.
Credits: 5; Prereq: ANT 2402, ANT 2410 or permission of instructor.

ANT 5336 The Peoples of Brazil.
Credits: 5

ANT 5337 Peoples of the Andes.
Credits: 4

ANT 5338 The Tribal Peoples of Lowland South America.
Credits: 4

ANT 5346 Caribbean Culture Patterns.
Credits: 4

ANT 5354 The Anthropology of Modern Africa.
Credits: 4

ANT 5423 Kinship and Descent.
Credits: 4

ANT 5465 Culture and Aging.
Credits: 5

ANT 5467 Culture and Nutrition.
Credits: 5

ANT 5477 Human Organization and Change.
Credits: 5

ANT 5479 Theories of Culture Change.
Credits: 4

ANT 5485 Methodological Foundation for Anthropology.
Credits: 4

ANT 5486 Quantitative Methods for Anthropology.
Credits: 5

ANT 5507 Bio-Behavioral Perspectives on Human Character Structure.
Credits: 5

ANT 5528 Anthropological Genetics.
Credits: 4

ANT 5546 Seminar: Biological Basis of Social Behavior. F.
Credits: 4

ANT 5615 Language and Culture.
Credits: 5

ANT 5622 Phonology: Anthropological Field Methods.
Credits: 5

ANT 5624 Introduction to Linguistic Field Methods.
Credits: 5

ANT 5675 Laboratory Work in Anthropological Linguistics.
Credits: 1 to 5. Maximum 15 credits.

ANT 5717 Anthropological Perspectives on Planned Behavioral Worlds.
Credits: 4

ANT 6038 Seminar in Anthropological History and Theory.
Credits: 4

ANT 6127 Laboratory Training In Archeology.
Credits: 5

ANT 6186 Seminar in Archeology.
Credits: 5

ANT 6188 Advanced Archeological Field Methods.
Credits: 9

ANT 6276 Principles of Political Anthropology.
Credits: 5

ANT 6286 Seminar in Ethnology.
Credits: 5

ANT 6356 Peoples and Culture in Southern Africa.
Credits: 5

ANT 6387 Seminar on the Anthropology of Latin America.
Credits: 5

ANT 6388 Ethnographic Field Methods.
Credits: 5

ANT 6408 Principles of Cultural Anthropology.
Credits: 5

ANT 6428 Culture and Community.
Credits: 5

ANT 6429 Cultural Pluralism.
Credits: 4

ANT 6434 Transcultural Psychiatry.
Credits: 5

ANT 6445 African Urbanization.
Credits: 5

ANT 6447 Seminar in Structure and Process in the Urban Environment.
Credits: 5

ANT 6478 Comparative Structure and Process of Natural Groups.
Credits: 5

ANT 6487 Evolution of Culture.
Credits: 5

ANT 6489 Pattern, Structure and Process.
Credits: 5

ANT 6547 Human Adaptation.
Credits: 5

ANT 6588 Seminar in Physical Anthropology.
Credits: 5

ANT 6619 Seminar in Language and Culture.
Credits: 5

ANT 6627 Seminar in Anthropological Linguistic Field Methods.
Credits: 5

ANT 6707 Seminar on Applied Anthropology.
Credits: 5

ANT 6716 Problems of National Integration in Latin America.
Credits: 5

ANT 6718 Directed Culture Change in Latin America.
Credits: 5

ANT 6725 Culture and Learning.
Credits: 5

ANT 6728 Anthropology and Education.
Credits: 5

ANT 6735 Seminar in Cross-Cultural Epidemiology.
Credits: 5

ANT 6737 Medical Anthropology.
Credits: 5

ANT 6905 Individual Work.
Credits: 1 to 5. Maximum 15 credits.

ANT 6910 Supervised Research.
Credits: 1 to 5††

ANT 6915 Research Projects in Social, Cultural and Applied Anthropology.
Credits: 1 to 5

ANT 6917 The Profession of Anthropology.
Credits: 2

ANT 6933 Special Topics in Anthropology.
Credits: 5. Maximum 15 credits.

ANT 6940 Supervised Teaching.
Credits: 1 to 5††

ANT 6945 Internship in Applied Anthropology.
Credits: 1 to 12. Maximum 12 credits.

ANT 6971 Master's Research.
Credits: 1 to 15††

ANT 7980 Doctoral Research.
Credits: 1 to 15††

Zoology
GRADUATE COURSES

ZOO 6126 Historical Ecology of the Pleistocene.
Credits: 4

ARCHITECTURE
College of Architecture

INSTRUCTIONAL STAFF 1979-80

Butt, A.F., Chairman; Cappellari, F.; Crain, E.E.; Dasta, A.J.; Fearney, E.M.; Foster, M.T.; Haase, R.W.; Hamacher, B.H.; Jaroszewicz, M.T.; Kemp, H.W.; Kinzey, B.Y.; Lisle, F.F., Jr.; McRae, J.M.; Merritt, H.C., Jr.; Morgan, C.F.; Morse, R.H.; Prugh, P.E.; Reeves, F.B.; Ridgdill, G.; Scheffer, G.; Shaw, L.G.; Solis, M.M.; Tillman, W.J.; Thorne, K.S.; Voichysonk, B.F.; Wiedegreen, E.A.; Winarsky, I.H.; Wisley, P.P.

ARC 1115C Basic Drawing. F, W, S, SS.
Credits: 4
Exercises to develop the student's skills in perception, organization, and freehand drawing.

ARC 1126C Architectural Drawing 1. F, W, S, SS.
Credits: 4
Exercises in instrumental drawing with architectural emphasis and perspective construction.

ARC 1131C Architectural Communications. F, W, S, SS.
Credits: 4; Prereq: ARC 1115, ARC 1126
Design elements applied to two-dimensional organization. Process-oriented exercises in the graphic simulation of three-dimensional space.

ARC 1211 The Building Arts. F, W, S, SS.
Credits: 3
A survey of the building arts, with emphasis on the social and physical factors that influence them.

ARC 2311C Architectural Design 1. F, W.
Credits: 4; Prereq: ARC 1131
Basic studies in perception of the components of architecture.

ARC 2313C Architectural Design 2. W, S.
Credits: 4; Prereq: ARC 2311
Basic studies in perception of the components of architecture. Continuation ARC 2311.

ARC 2461 Materials and Methods of Construction 1. F, S.
Credits: 4
The nature of materials used in construction. Criteria for evaluation and selection relating to design decision-making.

ARC 2580 Architectural Structures 1. W, S.
Credits: 4; Prereq: MAC 2223, PHY 2002, 2003.
A vocabulary course to prepare the student for making structural decisions in architecture and to begin to develop a structural sense important to architectural solutions.

ARC 3291C Special Studies in Architecture. F, W, S, SS.
Credits: 2 to 4; Prereq: Completion of lower division program in Architecture, or equivalent, and recommendation of advisor.
Special studies in Architecture adjusted to individual needs of undergraduate students. Student may repeat for a maximum of 8 credits.

ARC 3381C Architectural Design 3. F, S.
Credits: 6; Prereq: ARC 2313. Coreq: ARC 3681.
Studies in developing basic architectural space.

††Grading is on S-U basis only.

Descriptions

ARCHITECTURE

ARC 3382C Architectural Design 4. F, W.
Credits: 6; Prereq: ARC 3381.
Problem solving in architecture emphasizing site planning in the context of Architectural Design.

ARC 3383C Architectural Design 5. W, S.
Credits: 6; Prereq: ARC 3382
Problem solving of architectural design emphasizing creative analysis of various components, both as isolated elements and as they relate to the entire scope of design.

ARC 3463C Materials and Methods of Construction 2. W, S.
Credits: 4; Prereq: ARC 2461
Methods of assembling materials into building components and sub-components; detailing construction systems for shelter and enclosure.

ARC 3551C Architectural Structures 3. F, W.
Credits: 4; Prereq: ARC 3581
Elements of steel systems in architectural structures; introduction to continuity in architectural structures.

ARC 3581C Architectural Structures 2. F, S.
Credits: 4; Prereq: ARC 2580
Elements of wood systems in architectural structures; introduction to reinforced concrete structural systems.

ARC 3631C Environmental Technology 2. W, S.
Credits: 4; Prereq: PHY 2002, 2003.
Principles and practices relating to the control of the thermal and atmospheric environment in buildings.

ARC 3681C Environmental Technology 1. F, S.
Credits: 4 Prereq.: PHY 2002, 2003. Coreq: ARC 3381
Principals and practices of sanitation, power, communication and transportation in buildings.

ARC 3711 Survey of Architectural History 1. F, W.
Credits: 4
A general survey of social, political, and cultural factors which have generated art and architecture of the following civilizations: Egyptian, Mesopotamian, Greek, Roman, Early Christian, Romanesque, and Gothic.

ARC 4274 Professional Administration. W, S.
Credits: 4; Prereq: ARC 4464.
The ethical, legal and administrative responsibilities of the architect.

ARC 4384C Architectural Design 6. F, S.
Credits: 6; Prereq: ARC 3383.
Problem solving in architectural design emphasizing analysis of various components, both as isolated elements and as they relate to the entire scope of creative design.

ARC 4385C Architectural Design 7. F, W.
Credits: 6; Prereq: ARC 4384.
Application of the architectural design process to the assemblage and detailing of a small-scale building.

ARC 4386C Architectural Design 8. W, S.
Credits: 6; Prereq: ARC 4385
Problem solving in architecture emphasizing synthesis of design elements into complete systems of environment.

ARC 4464C Materials and Methods of Construction 3. F, W.
Credits: 4; Prereq.: ARC 3463, 3631 and 3551.
Cost control and quality control in design and construction; estimating, specification writing and field observation.

ARC 4561C Architectural Structures 4. F, S.
Credits: 4; Prereq.: ARC 3551
Elements of reinforced concrete and prestressed concrete systems in architectural structures; introduction to earthquake behavior on building systems.

††Grading is on S-U basis only.

ARC 4682C Environmental Technology 3. F, W.
Credits: 4; Prereq.: PHY 2002, 2003
Fundamentals of architectural lighting and acoustics.

ARC 4731 Survey of Architectural History 2. F, S.
Credits: 4; Prereq: ARC 3711.
Continuation of a general survey of social, political, and cultural factors which have generated art and architecture of the Renaissance and Baroque periods.

ARC 4741 Survey of Architectural History 3. W, S.
Credits: 4; Prereq: ARC 4731.
Continuation of the general survey of social, political, and cultural factors which have generated art and architecture of the 19th and 20th centuries.

GRADUATE COURSES

ARC 5535 Architectural Structures — Advanced Studies.
Credits: 5

ARC 5791 Problems in Architectural History
Credits: 4

ARC 5792 Studies in Architectural Theory.
Credits: 4

ARC 5800 Survey of Architectural Preservation, Restoration, and Reconstruction
Credits: 4

ARC 5810 Techniques of Architectural Documentation
Credits: 4

ARC 5890 Historic Preservation and Restoration: Interiors
Credits: 4

ARC 5891 Historic Preservation and Restoration: Landscape Architecture
Credits: 4

ARC 6241 Professional Core 1
Credits: 9

ARC 6242 Professional Core 2
Credits: 9

ARC 6265 Terminal Project
Credits: 1 to 15

ARC 6275 Professional Core 3
Credits: 2

ARC 6347C Architectural Design 3
Credits: 8

ARC 6355C Architectural Design 4
Credits: 8

ARC 6356C Architectural Design 5
Credits: 8

ARC 6391C Architecture, Energy, and Ecology
Credits: 4

ARC 6393C Advanced Architectural Connections
Credits: 4

ARC 6521 Advanced Architectural Structures 7
Credits: 4

ARC 6541 Advanced Architectural Structures 1
Credits: 4

ARC 6552 Advanced Architectural Structures 2
Credits: 4

ARC 6555 Advanced Architectural Structures 3
Credits: 6

ARC 6565 Advanced Architectural Structures 4
Credits: 4

ARC 6566 Advanced Architectural Structures 5
Credits: 6

ARC 6571 Advanced Architectural Structures 6
Credits: 4

ARC 6591 Advanced Architectural Structures 8
Credits: 4

ARC 6592 Advanced Architectural Structures 9
Credits: 4

ARC 6632 Environmental Systems Design Laboratory 4
Credits: 4

ARC 6633 Environmental Systems Design 4
Credits: 4

ARC 6642 Environmental Systems Design Laboratory 3
Credits: 4

ARC 6643 Environmental Systems Design 3
Credits: 4

ARC 6651 Environmental Systems Design Laboratory 6
Credits: 4

ARC 6652 Environmental Systems Design 6
Credits: 4

ARC 6684 Environmental Systems Design 1
Credits: 4

ARC 6685 Environmental Systems Design 2
Credits: 4

ARC 6691 Environmental Systems Design 5
Credits: 4

ARC 6713 Architectural History 1
Credits: 4

ARC 6735 Architectural History 2
Credits: 4

ARCH 6742 Architectural History 3
Credits: 4

ARC 6750 Architectural History: American 1
Credits: 4

ARC 6751 Architectural History: American 2
Credits: 4

ARC 6761 Architectural History: Area Concentration
Credits: 5; Maximum of 15 credits.

ARC 6771 Architectural History: Literature and Criticism
Credits: 5; Maximum of 15 credits.

ARC 6793 Architectural History: Regional
Credits: 4

ARC 6851 Technology of Restoration: Materials and Methods 1
Credits: 4

ARC 6852 Technology of Restoration: Materials and Methods 2
Credits: 4

ARC 6853 Technology of Restoration: Problems and Processes
Credits: 4

ARC 6854C Technology of Preservation: Programming and Design 1
Credits: 4

ARC 6855C Technology of Preservation: Programming and Design 2
Credits: 4

ARC 6860 Techniques of Preservation: Legal and Economic Processes
Credits: 4

ARC 6910 Supervised Research
Credits: 1 to 5††

ARC 6911 Architectural Research 1
Credits: 1 to 9

ARC 6912 Architectural Research 2
Credits: 1 to 9

ARC 6913 Architectural Research 3
Credits: 1 to 9

ARC 6940 Supervised Teaching
Credits: 1 to 5††

ARC 6971 Master's Research
Credits: 1 to 15††

ART
College of Fine Arts

INSTRUCTIONAL STAFF 1979-80

Westin, R.H.; Craven, R.C.; Doyon-Bernard, S.J.; Grissom, E.E.; Isaacson, M.J.; Kerslake, K.A.; Kremgold, D.A.; Murray, E.D.; Naylor, J.G.; Nicholson, J.C.; O'Connor, J.A.; Ruiz, N.; Skelley, R.C.; Smith, N.S.; Streetman, E.Y.; Uelsmann; J.N.; Ward, J.L.; Ward, P.A.; Williams, H.D.; Wilson, W.W.; Yellin, J.W.

Art

ART 1201C Beginning Design 1. F, S, SS.
Credits: 3
Fundamental principles of visual organization. Emphasis upon two-dimensional design in black and white. Students who intend to major in art should schedule ART 1201C and 1300C concurrently.

ART 1203C Beginning Design 2. W, SS.
Credits: 3; Prereq: ART 1201C.
Continuation of ART 1201C. Emphasis upon design in three dimensions. Projects in construction, modeling and carving in a variety of materials.

ART 1300C Beginning Drawing 1. F, S, SS.
Credits: 3
Drawing as a means of formal organization. Exploration of the drawing media through still life, figure and landscape.

ART 1301C Beginning Drawing 2. W, SS.
Credits: 3; Prereq: ART 1300C.
Continuation of ART 1300C. Emphasis upon spatial description — use of the figure.

ART 2001C Studio for Non-Majors. F, W, S, SS.
Credits: 2; No prerequisites.
An introductory studio course for the non-profession student who does not intend to major in art. Emphasis upon creative expression rather than technical proficiency. Not available for credit toward a major in art. This course may be repeated with change in content up to a maximum of 4 credits. This course may be taken on the S-U option.

ART 2205C Intermediate Design. F, W, S, SS.
Credits: 3; Prereq: ART 1201C-1203C.
Continuation of ART 1201C-1203C. Emphasis upon color theory, and upon the use of color in design.

ART 3110C Ceramics 1. F, W, S, SS.
Credits: 4; Prereq: ART 1201C-1203C.
An introduction to ceramic arts. Basic concepts of design, handbuilding processes and an introduction to glazing and firing of ceramics.

ART 3111C Ceramics 2. F, W, S, SS.
Credits: 4; Prereq: ART 1203C-3110C.
Basic studies in pottery; concentration on wheel throwing. An introduction to functional designing. A continuation of glazing and firing processes.

ART 3150C Jewelry and Metalwork, 1. F.
Credits: 4; Prereq: ART 1203C-3110C.
Basic processes in jewelry and metalwork. Work in silver, copper, and other materials. Enameling on metal.

ART 3151C Jewelry and Metalwork, 2. W.
Credits: 4; Prereq: ART 3150C.
Emphasis upon craftsmanship. Advanced techniques in metalwork and enameling.

ART 3158C Jewelry and Metalwork, 3. S.
Credits: 4; Prereq: ART 3150C-3151C.
Continuation of ART 3151C.

ART 3233C Layout 1. F.
Credits: 4; Prereq: ART 1201C-2205C. Recommended, ART 3280C.
Fundamental principles of visual communication and of design in printed material.

ART 3234C Layout, 2. W.
Credits: 4; Prereq: ART 1201C-2205C.
Continuation of ART 3233C with emphasis upon concept development.

ART 3235C Graphic Design. S.
Credits: 4; Prereq: ART 3233C-3234C-3282C.
Principles of advertising design with emphasis upon development of visual ideas and necessary skills and techniques for their presentation.

ART 3280C Lettering. F, W, S, SS.
Credits: 4; Prereq: ART 1201C-2205C.
Principles of design and use of letter forms. Study of historic designs and styles. Development of skills and execution.

ART 3282C Typographical Design. W.
Credits: 4; Prereq: ART 3233C.
Study of the nomenclature, basic principles and mechanics of typography as an element of graphic communication. Practical exercises in layout and preparation of type for the printed page.

ART 3310C Intermediate Drawing, 1. F, S.
Credits: 4; Prereq: ART 1301C.
Emphasis on creative expression of ideas and concepts; further development of techniques and materials/media related to the drawing processes.

ART 3311C Intermediate Drawing 2. W, SS.
Credits: 4; Prereq: ART 3310C.
Continuation of ART 3310C.

ART 3400C Printmaking, 1. F, W, S, SS.
Credits: 4; Prereq: ART 3310C.
Basic procedure and processes in printmaking. Formal and expressive characteristics of the print media.

ART 3401C Printmaking, 2 F, W, S, SS.
Credits: 4; Prereq: ART 3400C.
A continuation of ART 3400C.

ART 3510C Painting 1. F, W, S, SS.
Credits: 4; Prereq: ART 1301C-2205C.
Technical and creative problems. Emphasis upon pictorial organization. Paintings in various media.

ART 3520C Painting, 2. F, W, S, SS.
Credits: 4; Prereq: ART 3510C.
Work in one or more of the painting media: oil, watercolor, casein, lacquer, tempra, etc.

ART 3600C Photography, 1. F, W, S, SS.
Credits: 4; Prereq: ART 1201C.
Fundamentals of photography. Operation of camera. Developing, printing, enlarging. Principles of design in photography.

ART 3601C Photography, 2. F, W, S, SS.
Credits: 4; Prereq: ART 3600C.
Continuation of ART 3600C.

ART 3605C Photo-Print Processes 1. F, W, S, SS.
Credits: 4; Prereq: ART 3600C-3400C.
Studies in the conversion of the photographic image into a form suitable for the printmaking processes. Processes will include: photo screen printing, photo-etching and photo-lithography.

ART 3606C Photo-Print Processes 2. F, W, S, SS.
Credits: 4; Prereq: ART 3605C.
Continuation of ART 3605C. May be repeated with change of content.

ART 3701C Sculpture 1. F, W, S.
Credits: 4; Prereq: ART 1203C.
Problems in sculptural form and composition. Work in plaster, clay, metal and other materials.

ART 3702C Sculpture, 2. F, W, S.
Credits: 4; Prereq: ART 3701C.
Continuation of ART 3701C. Emphasis upon sculpture in metal. Introduction to carving.

ART 3830C Methods and Materials of the Artist. S.
Credits: 4; Prereq: ART 1201C-1203C, ART 2205C
Emphasizes the physical properties of the artist's materials.

ART 4113C Advanced Ceramics. F, W, S, SS.
Credits: 5; Prereq: ART 3111C.
Contemporary ceramic design and execution. Advanced technical and creative problems. This course may be repeated for credit.

ART 4237C Advanced Graphic Design. F.
Credits: 5; Prereq: ART 3235C.
Continuation of ART 3235C. The course deals with multiple page layout and design with emphasis upon concise visual thinking and upon speed and quality of execution.

ART 4239C Projects in Graphic Design; 1. W.
Credits: 5; Prereq: ART 4237C.
Projects in design and execution of page advertisement and direct-mail brochures. Poster design and package design.

ART 4241C Projects in Graphic Design, 2. S.
Credits: 5; Prereq: ART 4239C.
Design and execution of comprehensive advertising campaign.

ART 4312C Advanced Drawing. F, W, S, SS.
Credits: 5; Prereq: ART 3310C-3311C.
Emphasis upon the drawing as a terminal creative expression rather than as a preliminary study. This course may be repeated for credit.

ART 4402C Advanced Printmaking. F, W, S, SS.
Credits: 5; Prereq: ART 3401C.
Advanced problems in creative printmaking. This course may be repeated for credit.

ART 4531C Advanced Painting. F, W, S, SS.
Credits: 5; Prereq: ART 3520C.
Emphasis upon individual creative expression. This course may be repeated for credit.

ART 4604C Advanced Photography. F, W, S, SS.
Credits: 5; Prereq: ART 3601C.
Use of the camera as a medium of individual creative expression. Experimental projects in black and white and color photography. This course may be repeated for credit.

ART 4703C Advanced Sculpture. F, W, S, SS.
Credits: 5; Preeq: ART 3702C.
Advanced problems in sculptural form with further development of processes and techniques. This course may be repeated for credit.

ART 4905C Individual Study. F, W, S, SS.
Credits: 5; Prereq: A major in art and permission of the department head.
This course may be repeated for credit.

GRADUATE COURSES

ART 5905C Individual Study. F, W, S, SS.
Credits: 4 to 6; Prereq: A major in art and permission of the department head.
This course may be repeated for credit.

ART 6340C Advanced Drawing. F, W, S, SS.
Credits: 4; Prereq: ART 4312C.

ART 6835C Research in the Methods and Materials of the Artist. F, W, S, SS.
Credits: 1 to 5

ART 6910C Supervised Research. F, W, S, SS.
Credits: 1 to 5††

ART 6927C Advanced Study. F, W, S, SS.
Credits: 4 or 6

††Grading is on S-U basis only.

ASIAN STUDIES

ART 6940 Supervised Teaching. F, W, S, SS.
Credits: 1 to 5††

ART 6971C Master's Research. F, W, S, SS.
Credits: 1 to 15††

ART 6973C Individual Project. F, W, S, SS.
Credits: 1 to 15††

Art History

ARH 2050 Introduction to the Principles and History of Art 1. F, SS.
Credits: 3
Principles of art. Relation of styles to cultural context. Ancient and Medieval art and architecture.

ARH 2051 Introduction to the Principles and History of Art 2. W.
Credits: 3
Continuation of ARH 2050. Art and architecture through the late Medieval period through Rococo.

ARH 2052 Introduction to the Principles and History of Art 3. S.
Credits: 3
Continuation of ARH 2050-2051. 19th and 20th century art to the present day. The visual arts in contemporary society.

ARH 3130 Greek Art. F.
Credits: 4; Prereq: ARH 2050.
The art and architecture of ancient Crete and Greece through the Hellenistic Age.

ARH 3171 Roman and Early Christian Art. W.
Credits: 4; Prereq: ARH 2050.
The art and architecture of the Italian peninsula. Etruscan through the Roman Empire — early Christian and Byzantine art.

ARH 3200 Medieval Art. S.
Credits: 4; Prereq: ARH 2050-2051.
The art and architecture of Europe and the Mediterranean region from approximately the fourth to the fourteenth centuries A.D.

ARH 3510 Arts of Africa and Oceania. W, S.
Credits: 4
An introduction to the visual arts of Africa and Oceania. The focus of the course will be on either area. The course may be repeated with a change of content.

ARH 3520 Arts of Black Africa. S.
Credits: 4
Survey of traditional visual arts of Black Africa offered in two separate courses: (1) Arts of Western Sudan and Guinea Coast; (2) Arts of the Equatorial Forest and Southern Savanna. This course may be repeated with change of content and may be taken for graduate credit under ARH 5905.

ARH 3530 Oriental Art. W, SS.
Credits: 4
The visual arts in Oriental civilizations. This course may be repeated with change of content.

ARH 3541 The Art of India. 1. S.
Credits: 4
A survey of the development of sculpture and architecture in India from the Indus Valley epoch through the Medieval period.

ARH 3542 The Art of India 2. S.
Credits: 4
A survey of the development of painting in India from ancient times up to the contemporary period.

ARH 3605 American Indian Art. S.
Credits: 4
A survey of the visual arts of the Amerindians north of Mexico from the prehistoric era to the present.

††Grading is on S-U basis only.

ARH 3613 American Art. SS.
Credits: 4
Painting and sculpture in the United States from the middle of the 18th century through 1913.

ARH 3614 Introduction to Afro-American Art. S.
Credits: 4
This course will include Afro-American art from Latin America and the Caribbean as well as from the United States. Emphasis will be on the social context of the art and artists under consideration. May be taken for graduate credit under ARH 5905.

ARH 3650 Latin American Art. F, W.
Credits: 4
A survey of pre-Columbian, colonial and modern art in Mexico, Central America and South America. Course may be repeated with change of content.

ARH 3800 Criticism of Art. S.
Credits: 4; Prereq: ARH 2050-2051-2052.
Review of principal theories in the history of criticism. Analysis and evaluation of work of art. Problems in the criticism of contemporary art.

ARH 4310 Early Renaissance Art in Italy. F.
Credits: 4; Prereq: ARH 2050-2051.
Italian art from 1200 to 1430. Emphasis upon painting and sculpture.

ARH 4311 Renaissance Art in Italy. W.
Credits: 4; Prereq: ARH 2050-2051.
Continuation of ARH 4310. Italian art from 1430-1500. Emphasis upon painting.

ARH 4312 Later Renaissance Art in Italy. S.
Credits: 4; Prereq: ARH 2050-2051.
Continuation of ARH 4311. Italian art and architecture of the 16th century. Emphasis upon painting.

ARH 4331 Renaissance Art in Northern Europe. F.
Credits: 4; Prereq: ARH 2050-2051.
Sources and development of late 14th and 15th century art outside Italy. Emphasis upon painting.

ARH 4332 Later Renaissance Art in Northern Europe. F.
Credits: 4; Prereq: ARH 2050-2051.
Continuation of ARH 4331. 16th century European art outside Italy. Emphasis upon painting.

ARH 4350 Baroque Art in Europe. S.
Credits: 4; Prereq: ARH 2050-2051.
Continuation of ARH 4312-4332. European art and architecture in the 17th and 18th centuries. Emphasis upon painting and sculpture.

ARH 4431 Nineteenth Century Art. F.
Credits: 4; Prereq: ARH 2050-2051-2052.
Continuation of ARH 4350. European art and architecture in the nineteenth century. Emphasis upon painting and sculpture. Neo-Classicism, Romanticism, Realism.

ARH 4432 Late Nineteenth Century Art. W.
Credits: 4; Prereq: ARH 2050-2051-2052.
Continuation of ARH 4431. European art and architecture from approximately 1875 to 1913.

ARH 4452 Early Twentieth Century Art. S.
Credits: 4; Prereq: ARH 2050-2051-2052.
Continuation of ARH 4432. European and American art of the twentieth century prior to 1940.

ARH 4453 Mid-Twentieth Century Art. F, S, SS.
Credits: 4
Continuation of ARH 4452. American and international art from 1945 to present.

ARH 4495 Senior Seminar. F, S, SS.
Credits: 4; Prereq: Senior standing and a major in art.
Study and discussion of selected topics of current interest and significance in the visual arts.

ARH 4905 Individual Study. F, W, S, SS.
Credits: 5; Prereq: A major in art and permission of the department head.
This course may be repeated for credit.

ARH 4935 Honors Seminar in Art. F, W, S, SS.
Credits: 4; Prereq: ARH 4495 or equivalent, senior standing and a major in art.
Intensive study by the seminar method of a limited topic in the field of art. This course may be repeated with change in content.

GRADUATE COURSES

ARH 5805 Methods of Research and Bibliography. S.
Credits: 4; Prereq: ARH 3800 or its equivalent.
Emphasis upon research methodology.

ARH 5905 Individual Study. F, W, S, SS.
Credits: 4 to 6; Prereq: A major in art and permission of the department head.
This course may be repeated for credit.

ARH 6791 Research in the Methods and Materials of the Artist. F, W, S, SS.
Credits: 1 to 5†

ARH 6897 Seminar: Problems in the History, Theory and Criticism of Art 1. W.
Credits: 4
Ideas in contemporary art.

ARH 6898 Seminar: Problems in the History, Theory and Criticism of Art 2. S.
Credits: 4
Continuation of ARH 6897.

ARH 6899 Seminar: Problems in the History, Theory and Criticism of Art 3. SS.
Credits: 4
Continuation of ARH 6898.

ARH 6910 Supervised Research. F, W, S, SS.
Credits: 1 to 5††

ARH 6911 Advanced Study. F, W, S, SS.
Credits: 4 or 6

ARH 6971 Master's Research. F, W, S, SS.
Credits: 1 to 15††

ASIAN STUDIES
College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1979-80
(Major Committee)

Johnson, Irmgard, Director (Humanities); Chang, R. T. (History); Chu, C. C. (Linguistics and Chinese); Clubok, A. B. (Political Science); Craven, R. C. (Art); Creel, A. B. (Religion); Funk, A. L. (History); Lawless, R. (Anthropology); McCoy, F. T. (Law); Swann, B. (Social Sciences); Swann, T. (Japanese); Thursby, G. R. (Religion); Toda, Y. (Economics).

The Asian Studies interdepartmental program offers an interdisciplinary major which culminates in a Bachelor of Arts degree. Undergraduate students whose interest in Asia is primarily cultural or regional will take 40 quarter hours from designated courses, 28 hours of which will concentrate on either East Asia or South Asia. The remaining 12 hours of the major will be devoted to courses dealing with one or the other of these two areas and/or from General Asia courses. At least one interdisciplinary seminar will be included in this program.

In addition to the major, the student should also be aware of the Basic Distribution and Language Requirements of the College of Liberal Arts and Sciences. Fulfillment of these foreign language requirements will be discussed in consultation with the faculty advisor (a member of the Major Committee listed above), taking into account the individual's educational, professional, and personal goals. The University offers courses in both Chinese and Japanese.

Graduate courses in several areas of Asia are listed under individual departments, and an Asian-emphasis Master's degree may be worked out.

In addition to the 40 hour major, a 20-25 hour Certificate Program is available. (See "Certificate Programs" under "Special Programs" in the College of Liberal Arts and Sciences section in this catalogue.)

Asian Studies Courses

General Asia: HUM 2410; ASN 2001; CPO 3034; HUM 3410; ARH 3530; ASN 4935; REL 4390

East Asia: CHI 3500; ECS 4203; GEA 3753; ASH 3401; 3302, 3303, 3441, 3442, 5388, 6904; MUH 3501 (when concentrated on Asia); REL 3330, 4333

South Asia: ARH 3541, 3542; ASH 3521, 3550; REL 3340, 3341, 3342, 4346, 4347, 4390

In addition to the foregoing lists, Individual Study and Special Topics courses dealing with Asia may also be utilized for degree credit (or certificate credit) with the approval of the faculty advisor. (Example: "Japanese Humanities" currently taught as one of several courses under Special Topics number HUM 2930.)

Honors will be awarded to any student who completes the Asian Studies interdisciplinary major program with a 3.5 or higher grade average both in the major and in upper division work, and who is recommended for Honors by both the Director of Asian Studies and the instructor in ASH 4905 as having completed in that course an honors-caliber individual project which is interdisciplinary in nature.

Interdisciplinary Asian Studies Courses

ASN 2001 Asia and Its Peoples. W, S.
Credits: 5
An introductory study of Asia, with special attention to selected current problems as reflected in life situations in Asian countries.

ASN 4935, Asian Studies Senior Seminar. S.
Credits: 5; Prereq: Senior status in Asian studies or permission of the instructor.
An integrated approach designed to enable a student to bring together various facets of previous study in relation to particular topics and problems. Required of all majors in the Asian Studies Interdisciplinary Program; open to other advanced students with the permission of the instructor.

Humanities

HUM 2410 Asian Humanities. F, W, S.
Credits: 5
A general education course similar in philosophy and purpose to HUM 2210, 2230, 2250. Contents selected from the philosophy, literature, art, and music of India, China, and Japan.

HUM 3411 Advanced Asian Humanities. S.
Credits: 4
Also an Asian Culture course; it studies selections from the philosophy, literature, art, architecture, music, and theatre of India, China, and Japan at a more advanced level than HUM 2410 and with more particularized analysis of certain genres and individual works.

ASTRONOMY
College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1979-80

Eichhorn, H.K., Chairman; Carr, T.D.; Chen, K-Y.; Cohen, H.L.; Donivan, F.F.; Gottesman, S.T.; Green, A.E.S.; Hunter, J.H.; Leacock, R.J.; Lebo, G.R.; Lynch, M.A.; Oliver, J.P.; Omer, G.C.; Roberts, L.H.; Smith, A.G.; Smith, H.; Williams, C.A.; Wilson, R.E.; Wood, F.B.

In addition to the general requirements of the College, students majoring in Astronomy must take AST 3017, AST 3018, AST 3019, PHY 2040, PHY 2041, PHY 2042, PHY 2040L, PHY 2041L, PHY 2042L, MAC 3311, MAC 3312, MAC 3313, MAC 3314, MAP 3302; 21 hours from the following group of courses: AST 3652 or AST 3653, AST 4210, AST 4402, AST 4622, a maximum of three hours of AST 4905, AST 5043, AST 5113 or AST 5114, AST 5600 and 8 hours from this group of courses: PHY 3223, PHY 4224, PHY 3423, PHY 4424, PHY 4454L, PHY 3132, PHY 4124, PHY 4822L, PHY 3323, PHY 4324, PHY 4523, PHY 5524, PHY 3018, PHY 2102, PHY 2103, PHY 2104 and PHY 4712L.

Elective courses for students considering an advanced degree in Astronomy should include one year of general chemistry, computer and information science courses and additional courses in mathematics and physics. Astronomy majors are advised to see the Departmental undergraduate major advisor, Dr. Robert Leacock, as soon as possible in their academic career.

AST 1002 Descriptive Astronomy. F, W, S, SS.
Credits: 4
An elementary survey of the astronomical universe, primarily for those not majoring in physical science or mathematics.

AST 1022L Astronomy Laboratory. F, W, S, SS.
Credits: 1; Coreq. or Prereq: AST 1002.
Observational work: this plus AST 1002 satisfies the requirement for a laboratory science.

AST 2001 Fringes of Science.
Credits: 3; Prereq: none.
An investigation into the scientific background of UFO reports, unconventional astronomical hypotheses and similar topics on the "Fringes of Science." Working from original published materials this course looks at all sides of these controversial topics.

AST 2003C Survey of Solar System Astronomy. W, S.
Credits: 4
An elementary survey emphasizing astronomy of the solar system. The course is designed for those not majoring in physical science or mathematics. Includes observational work and satisfies the requirement for a laboratory science.

AST 2004C Survey of Stellar Astronomy. S, SS.
Credits: 4
An elementary survey emphasizing stellar, galactic and extragalactic astronomy. The course is designed for those not majoring in physical science or mathematics. Includes observational work and satisfies the requirement for a laboratory science.

AST 2036 Astrology, the Non-Science.
Credits: 2; Prereq: none.
Exposition and critical discussion of the methods, hypotheses and claims of various schools of astrology, their history and development.

AST 2039 Exploration of the Universe.
Credits: 3; Prereq: none.
A descriptive, non-mathematical examination of current ideas concerning the origin, evolution and future development of the universe and its major constituents. This elementary course in cosmology is designed for non-science majors.

AST 3017C General Astronomy 1. F.
Credits: 5; Prereq: Calculus and one year of college physics.
First part of the sequence AST 3017-3018-3019. A survey of the astronomical universe, primarily for majors in physical science, engineering, or mathematics. Includes observational work and satisfies the requirement for a laboratory science.

AST 3018C General Astronomy 2. W.
Credits: 5; Prereq: AST 3017.
Second part of the sequence AST 3017-3018-3019.

AST 3019C General Astronomy 3. S.
Credits: 5; Prereq; AST 3017-3018.
Third part of the sequence AST 3017-3018-3019

AST 3034 Frontiers in Astronomy. F, W, S, SS.
Credits: 3, Prereq: AST 1002 or AST 2004C.
Intended for non-science majors who have had an introductory course in Astronomy. This course will present an in-depth look at selected topics of current interest. The content of the course is flexible according to the desires of the students and the instructor. No physics or mathematics background required.

AST 3082C Basic Astronomy for Teachers. SS.
Credits: 4; Prereq: One year of high-school algebra.
Lectures, demonstrations, and observing sessions covering selected topics in solar system and stellar astronomy.

AST 3652 Celestial Navigation. W.
Credits: 4; Prereq: MAC 1132.
Determination of position at sea and guidance of marine vessels. Charts, the compass, dead reckoning, piloting, navigational instruments and nautical astronomy with emphasis on fundamentals of celestial navigation.

AST 3653 Celestial and Air Navigation. S.
Credits: 4; Prereq: MAC 1132.
Covers the guidance fundamentals of aircraft. Aeronautical charts, visual flight planning and procedures, relative movement, radio, navigational astronomy; time and sight reduction.

AST 4210 Introduction to Astrophysics. F.
Credits: 4; Prereq: AST 3017-3018-3019. PHY 2040-2041-2042 and one year of calculus.
An introduction to astrophysics with particular emphasis on the fundamentals of radiative transfer and a detailed development of Planck's expression for the specific intensity of blackbody radiation. The basic equations of stellar structure are derived, and particular solutions of these equations are considered along with their astronomical implications.

AST 4402 Galaxies and Cosmology. W.
Credits: 3; Prereq: AST 3017-3018-3019 and a working knowledge of differential and integral calculus.
An investigation into the properties of galaxies and of their distribution in space. Some cosmological implications of this distribution will be discussed The course is designed for astronomy majors and advanced students of other mathematical sciences.

AST 4622 Kinematic Astronomy. S.
Credits: 4; Prereq: Knowledge of matrix and vector operations, elementary calculus.
Exposition and development of the analytical models for treating phenomena generated by the motions of celestial bodies. Topics covered are coordinate systems, time, earth motions and stellar motions.

AST 4905 Individual Work. F, W, S, SS.
Credits: 1 to 5; Prereq: AST 3017-3018-3019 or two years of college physics, plus consent of instructor.
Assigned reading or research for qualified undergraduates. May be repeated with change of content.

GRADUATE COURSES

ASI 6105 Astronomical Techniques 1.
Credits: 3

ASI 6106 Astronomical Techniques 2.
Credits: 3

ASI 6115 Astronomical Techniques 3.
Credits: 3

ASI 6116 Astronomical Techniques 4.
Credits: 3

ASI 6205 Radio Astronomy 1.
Credits: 3

ASI 6206 Radio Astronomy 2.
Credits: 3

Descriptions

ATMOSPHERIC SCIENCES

AST 6207 Radio Astronomy 3.
Credits: 3

AST 5043 History of Astronomy. W.
Credits: 3

AST 5113 Solar System Astrophysics 1. W.
Credits: 3

AST 5114 Solar System Astrophysics 2. S.
Credits: 3

AST 5273 Interacting Close Binary Stars.
Credits: 3

AST 5600 Computational Astronomy.
Credits: 3

AST 6165 Radiopropagation and Ionospheric Physics 1.
Credits: 3

AST 6166 Radiopropagation and Ionospheric Physics 2.
Credits: 3

AST 6167 Atomic Physics of Planetary Atmospheres
Credits: 3

AST 6168 Physics of Earth's Atmospheres.
Credits: 3

AST 6169 Physics of Planetary Atmospheres.
Credits: 3

AST 6214 Stellar Astrophysics 1.
Credits: 3

AST 6215 Stellar Astrophysics 2.
Credits: 3

AST 6216 Stellar Astrophysics 3.
Credits: 3

AST 6265 Variable Stars
Credits: 3

AST 6275 Visual and Spectroscopic Binary Stars 1.
Credits: 3

AST 6276 Visual and Spectroscopic Binary Stars 2.
Credits: 3

AST 6277 Eclipsing Binary Stars 1.
Credits: 3

AST 6278 Eclipsing Binary Stars 2.
Credits: 3

AST 6306 Galactic Structure.
Credits: 3

AST 6406 Extragalactic Astronomy and Cosmology.
Credits: 3

AST 6506 Celestial Mechanics 1.
Credits: 3

AST 6507 Celestial Mechanics 2.
Credits: 3

AST 6606 Positional Astronomy 1.
Credits: 3

AST 6607 Positional Astronomy 2.
Credits: 3

AST 6905 Individual Work.
Credits: 1 to 5

AST 6910 Supervised Research.
Credits: 1 to 5††

AST 6935 Seminar in Modern Astronomy
Credits: 1††

AST 6940 Supervised Teaching.
Credits: 1 to 5††

AST 6971 Master's Research.
Credits: 1 to 15††

††Grading is on S-U basis only.

AST 7157 The Giant Planets.
Credits: 3

AST 7279 Close Binary Stars.
Credits: 3

AST 7939 Special Topics.
Credits: 3

AST 7980 Doctoral Research.
Credits: 1 to 15††

PHYSICS — SPECIALIZED

PHS 6606 Special Relativity.
Credits: 3

PHS 6616 General Relativity.
Credits: 3

ATMOSPHERIC SCIENCES
College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1979-1980

Chameides, W.L., Coordinator; Green, A.E.S.; Peterson, L.R.; Taylor, K.E.

The Atmospheric Sciences discipline, a component of the Department of Physics, offers a variety of programs for students interested in studying the application of scientific principles to a highly relevant area of environmental concern. In addition to the major in atmospheric science, which is a part of the interdisciplinary majors program of the College of Liberal Arts and Sciences (see College Section), minors for technical and non-technical students are also offered, as well as a minor in Weather Forecasting for Broadcasters, which is a joint program with the College of Journalism. Interested students should contact Dr. W. L. Chameides at 392-0512, room 309 SSRB.

Meteorology

MET 1010 Introduction to Weather and Climate. F, W, S, SS.
Credits: 3; Prereq: None.
A course designed for non-science students interested in understanding the phenomena of daily weather on the stage set by the climate.

MET 1010L Laboratory for Meteorology 1010. F, W, S, SS.
Credits: 1; Coreq: MET 1010.

MET 2503L Laborotory for Meteorology and Atmospheric Physics 2701. F, W. S.
Credits: 1; Coreq: MET 2701.

MET 2701 Elementary Meteorology and Atmospheric Physics. F, W, S.
Credits: 3
The phenomena of weather and climate, of the upper atmosphere and man's involvements with the lower atmosphere; for students with a physics or chemistry background.

MET 3051 Atmospheric Chemistry and Geochemical Cycles. F.
Credits: 3; Prereq: MET 1010 or equivalent.
Study of the chemical transformations of the atmosphere and their coupling to biospheric processes, including the impact of man's activities; includes geochemical cycles and the photochemistry of the lower atmosphere, including the problem of ozone depletion.

MET 3100 Dynamic Meteorology. W.
Credits: 3; Prereq: MET 1010 or equivalent.
Collection and use of climatic data; simple and complex climatic elements; climate history, trends, and fluctuations; climate activities and environment.

MET 3160L Laboratory for Meteorology and Micrometeorology 3711. W, SS.
Credits: 1; Coreq: MET 3711, Prereq: PHY 2040.

MET 3711 Introduction to Meteorology and Micrometeorology. W, SS.
Credits: 3; Prereq: PHY 2040.
The interaction of the earth and atmosphere within the first hundred feet of the ground. The local radiation balance, and temporal and spatial distribution of solar radiation at the surface. The effects of small-scale circulation patterns on plant growth. Effects of local turbulence and convection.

MET 4401 Passive Remote Sensing. W.
Credits: 3; Prereq: MAP 3302.
Recent developments in remote sensing by passive optical techniques (infrared to ultraviolet) are discussed both from the point of view of instrumentation and of the properties or phenomena which are measured. Introduction to remote sensing for persons concerned with the atmosphere and with earth resources (e.g., forestry, geology, urban studies, etc.)

MET 4402 Remote Sensing of the Atmosphere (Active). S.
Credits: 3; Prereq: PHY 3123.
Recent developments in remote sensing of the atmosphere by active radio, optics, and acoustic techniques. Emphasis on micro-meteorological problems rather than the usual areas of meteorological concern.

MET 4460 Introduction to Aeronomy. S.
Credits: 3; Prereq: MET 1010 or equivalent.
Evolution, general properties and models of the atmosphere with special emphasis on solar-terrestrial relationships, the upper atmosphere, and near space. Some knowledge of the basic principles of meteorology is assumed.

MET 4905 Individual Work. F, W, S, SS.
Credits: 3 to 5
Qualified undergraduate students may study selected topics in aeronomy and atmospheric sciences. May be repeated with change of content up to 15 credits.

BEHAVIORAL STUDIES

INSTRUCTIONAL STAFF 1979-80

Doherty, H.J., Chairperson; Bell-Nathaniel, A.M.; Christian, M.B.; Davis, B.H.; Goodale, T.G.; Hansen, A.; Kramer, S.; Schwartz, J.M.; Spring, A.; Tucker, C.M.; Wolfson, M.

The Department of Behavioral Studies develops and offers interdisciplinary courses primarily of topical nature designed to introduce students to principles from the behavioral sciences and to help them develop skills in applying this knowledge in understanding topics of contemporary significance. The Department seeks to 1) introduce students to fundamental issues in the area of human behavior and develop an awareness of the issues' complexity. 2) Develop interest in and an appreciation of the potential of the behavioral sciences as disciplines making significant contributions which foster individual and social development, and in resolving individual and social conflicts. 3) Foster an open, questioning attitude towards their own and others' beliefs and behaviors. 4) Promote the development of analytic abilities and encourages their use in obtaining and evaluating information and reaching decisions based on such an approach.

BES 2121 Creative and Critical Thinking. F, W, S, SS.
Credits: 4
A systematic approach to problem solving that focuses on an understanding of the individual as a socio-biological creature with both psychological and physiological needs. It emphasizes creative thinking in the evaluation of evidence, the assessment of probability, and the likelihood of risk. Attention is given to sound procedures of inquiry and the effect of such subjective factors as bias, emotions, attitudes and values on these procedures. Attention is also given to the influence

that language, informal fallacies, and devices of persuasion exert on the decision-making process.

BES 2291, 2391, 2491 Behavioral Studies; College Honors 2291-F, 2391-W, 2491-S.
Credits: 4 each
An interdisciplinary study in the behavioral studies structured to the abilities of qualified students. Admission by invitation only.

BES 2351 Power, Violence, and the Individual. F, W, S, SS.
Credits: 4
Utilizing perspectives from a range of academic fields (Sociology, Psychology, History, Literature) the course will examine questions concerning the biological, psychological, social and cultural causes of violence with a focus on the American scene. A lecture series including outside speakers, movies, documentaries, and/or field trips is planned to provide different perspectives on the issues of power and violence and to aid students gain insights into their social surroundings and personal experiences.

BES 2411 Cybernetics and Society. F, W, S, SS.
Credits: 4
The effects of our modern technological society on individuals in the present day and in the future. Particular emphasis is placed on value changes and effects on human behavior created by the mass introduction of scientific and technological advances. Perspectives from various disciplines combine to provide insights into problems and benefits of current and future technology.

BES 2930 Behavioral Studies: Special Topics. F, W, S, SS.
Credits: 1 to 5
Courses designed to develop an understanding of how principles from the behavioral sciences can be used to describe, evaluate and explain selected topics of significance in contemporary society. Students will be introduced to principles from Sociology, Psychology, Anthropology, Speech, etc. May be repeated with change of topic up to a maximum of 8 credits.

Marriage and Family

MAF 2402 Human Sexuality and Society. F, W, S, SS.
Credits: 4
The course examines (1) development of an individual's sexuality and sexual identity throughout the life cycle and (2) aspects of sexuality in contemporary society. Sexual anatomy and functioning, gender roles, and the interplay of behavior and values (sexual ethics) are discussed. Course goals are to present accurate information, including data from continuing research, and help the student become comfortable with the topic and information.

BIOCHEMISTRY AND MOLECULAR BIOLOGY
College of Medicine

INSTRUCTION STAFF 1979-80

Young, M., Chairman; Allen, Jr., C.M.; Boyce, R.P.; Chun, P.W.; Cohen, R.J.; Dunn, B.M.; Feldherr, C.M.† ; Fisher, W.R.†; Fried, M.; Laipis, P.J.; Mans, R.J.; McGuire, P.M.; Noonan, K.D.; O'Brien, T.W.; Remsen, R.F.; Roberts, R.M.; Silverman, D.N.†; Stein, G.S.; Stein, J.†; Stevens, A.R.†
† Courtesy Appointments

Undergraduate Coordinator: R.J. Mans

The department offers a full program of courses for the undergraduate student preparing for professional school and advanced degrees in the biological, agricultural and life sciences. BCH 3613 is an introductory course designed to acquaint the student with the important role biochemistry plays in the life sciences with particular emphasis on the human aspects.

BCH 4313, 4203, and PCB 4535 are designed to provide the student with the comprehensive information needed to undertake advanced studies in more specialized areas. BCH 4905 and BCH 5055L complement these lecture courses by providing the option of a laboratory experience for those students who are interested in experimental approaches to biochemistry.

Students with an interest in biochemistry and a strong background in chemistry and biology courses may elect to undertake an Interdisciplinary Major in Biochemistry and Chemistry or Botany or Zoology or Microbiology and Cell Science. Interdisciplinary majors are required to enroll in BCH 4905 for at least 3 quarters.

The seminar, PCB 4930 is part of the Junior Honors Medical Program which permits early entry into medical school.

For those planning graduate work in the Department, the undergraduate major should preferably be in chemistry or biological sciences. It is recommended that as many as possible of the following courses be taken: BCH 3613, BCH 4313, BCH 4203, BCH 5055L, BCH 4905, PCB 4535, quantitative, organic and physical chemistry, calculus, physics, genetics, physiology, microbiology and German.

Biochemistry

BCH 3613 Introduction to Human Molecular Biology. S.
Credits: 3; Prereq: ZOO 2011, APB 2153 or equivalent; CHM 2043 or equivalent.
Introduction to molecular biology of normal and abnormal human systems for students in the Life Sciences. Relationship of biochemistry to advances in medical sciences, organization of human cells, cell duplication and mutability of the human genome, nutrition and metabolic diseases, viral diseases, and cell growth and proliferation (cancer, aging).

BCH 4203 Introduction to Intermediary Metabolism. W.
Credits: 5; Prereq: BCH 4313.
The second half of BCH 4313-4203. An introduction to intermediary metabolism. Topics will include a survey of biosynthetic and degradative pathways of carbohydrate, lipids, amino acids, in addition to photosynthesis, energy conservation and metabolic control.

BCH 4313 Introduction to Physical Biochemistry. F.
Credits: 5; Prereq: Organic Chemistry.
The first half of BCH 4313-4203. An introduction to physical biochemistry. Topics will include a survey of structure, chemistry, and function of nucleic-acids, amino acids, and proteins, enzyme kinetics, and regulation.

BCH 4905 Biochemistry Senior Research. F, W, S, SS.
Credits: 3 to 5; Prereq: CHM 3210-3211 or equivalent. Senior standing and consent of instructor.
Laboratory or literature investigations of biochemical problems of current interest. May be repeated with change of content up to a maximum of 20 credits.

Process Biology

PCB 4535 Biochemical Genetics. S.
Credits: 4; Prereq: BCH 4313 or BCH 4203.
Topics include classic and contemporary experiments illustrative of the main aspects of DNA replication, function and chromosomal organization; RNA synthesis, processing and regulation; specific protein synthesis as expressions of genetic information in: bacteria — phage, mammalian cells — virus, developing and differentiating tissues and genetically characterized plants.

PCB 4930 Cell Biology Seminar. F.
Credits: 7
Cellular functions in health and disease. The structure and molecular biology of the mammalian cell are stressed, including such things as virus-cell interactions, inborn errors of metabolism and bacterial growth. Enrollment restricted to students accepted into the Basic Biological and Medical Sciences Program.

GRADUATE COURSES
Biochemistry

BCH 5055L Biochemistry Laboratory. W.
Credits: 2

BCH 5878 Current Trends in Biochemistry I. F.
Credits: 2

BCH 5879 Current Trends in Biochemistry II. W.
Credits: 2

BCH 6065 Biochemical Structure and Function.
Credits: 4

BCH 6156C Research Methods in Biochemistry.
Credits: 2 to 6

BCH 6206 Metabolism
Credits: 4

BCH 6296 Bioenergetics and Enzyme Mechanisms.
Credits: 4

BCH 6415 Principles of Molecular Biology and Genetics.
Credits: 4

BCH 6746 Physical Biochemistry.
Credits: 4

BCH 6876 Recent Advances in Biochemistry.
Credits: 2††

BCH 6910 Supervised Research
Credits: 1 to 5††

BCH 6936 Biochemistry Seminar
Credits: 1††

BCH 6937 Special Topics in Biochemistry.
Credits: 2

BCH 6940 Supervised Teaching
Credits: 1 to 5††

BCH 6971 Master's Research.
Credits: 1 to 15††

BCH 7726 Biochemistry of Disease.
Credits: 3

BCH 7727 Molecular Biology 1.
Credits: 4

BCH 7728 Molecular Biology 2.
Credits: 4

BCH 7729 Molecular Biology 3.
Credits: 4

BCH 7980 Doctoral Research.
Credits: 1 to 15††

THE BIOLOGICAL SCIENCES
College of Liberal Arts & Sciences

INSTRUCTIONAL STAFF 1979-80

Emmel, T.C., Director, Division of Biological Sciences; Schooley, J.K., Course Coordinator; Staff from Departments of Botany, Zoology and Entomology.

The program in Biological Sciences forms an integral part of the student's total experience in general education. An appreciation of the principles governing the living world is a necessary part of the background of any educated person. The three quarters of APB 2150-2151-2152, will satisfy the general education requirements for admission to or graduation from other colleges in the University. Students normally take the Biological Sciences courses in the above sequence but may restructure where necessary.

††Grading is on S-U basis only.

THE BIOLOGICAL SCIENCES

Applied Biology

APB 2150 The Biological Sciences — Genetics and Evolution. F, W, S, SS.
Credits: 4
Probably the most far-reaching biological concept is that of evolution. Mechanisms directing the evolution of organisms are studied in depth, with particular attention being given to heredity. Emphasis is on genetics and the evolution of mankind.

APB 2151 The Biological Sciences-Ecology and Behavior. F, W, S, SS.
Credits: 4
This course stresses the principles of ecology, the study of relationships of organisms to their environments, and examines the biological basis of behavior. Particular emphasis is placed on the impact of man's activities on our environment.

APB 2152 The Biological Sciences-Cell and Organism Biology. F, W, S, SS.
Credits: 4
The relationship between structure and function is explored at the cellular and organismal level. Modern concepts of physiology are stressed and emphasis is placed on the function of the human body.

APB 2152L Laboratory in Biological Sciences. F, W, S.
Credits: 1; Coreq. or prereq: APB 2152 or its eqivalent.
A laboratory designed to acquaint the student with selected biological principles. It is available to those students who wish to gain experience in a non-professionally oriented laboratory, or for those needing laboratory experience to satisfy requirements for graduation.

APB 2991-2992-2993 The Biological Sciences: College Honors.
Credits: 4 each
Content consistent with the goals of APB 2150-2151-2152 and structured to the abilities of qualified students.

Introductory Biology

BSC 2930 The Biological Sciences: Special Topics. S.
Credits: 4; Prereq: One Quarter of Biological Sciences or equivalent.
Topics and problems for individual and small group investigations; techniques of research, documentation, reports, critiques. Particularly relevant topics may form the nucleus for concentration during any one quarter and the subject may change with change of instructor or quarter.

Special Services Courses

APB 2994-2995-2996 The Biological Sciences.
Credits: 4 each
Content consistent with the goals of APB 2150-2151-2152 and structured to the abilities of qualified students. Admission by invitation only.

BIOLOGICAL SCIENCES — GENERAL BIOLOGY CORE SEQUENCE

College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1979-80

Emmel, T.C., Director, Division of Biological Sciences; Nordlie, F.G., Core Coordinator; Staff from the Departments of Biochemistry, Botany, Microbiology and Cell Science and Zoology.

The new Core Biological Sciences Sequence is intended for pre-professional students intending to enter the Health Sciences, Food and Agricultural Sciences and Engineering as well as the Departmants of Biochemistry, Botany, Microbiology and Cell Science and Zoology.

Introductory Biology

BSC 2010C Organismic Biology. F, W, SS.
Credits: 4
Whole organism biology. Diversity of living forms, growth and development, physiology and reproduction.

BSC 2011C Molecules and Cells. W, S.
Credits: 4; Prereq: BSC 2010C and CHM 2041C or CHM 2045C.
Structure and function of eucaryotic and procaryotic cells and viruses. Molecular and Mendelian genetics.

BSC 2012C Populations and Communities. F, S, SS.
Credits: 4; Prereq: BSC 2011C
An examination of the principles of population genetics, population growth and regulation, evolution, behavior, biogeography and community organization.

BOTANY

College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1979-80

Stern, W.L., Chairman; Aldrich, H.C.†; Anthony, D.S.; Bowes, G.; Davis, J.S.; Deevey, E.S.†; Ewel, J.J.; Griffin, D.G.; Humphreys, T.E.; Judd, W.S.; Kimbrough, J.W.; Lucansky, T.W.; Mullins, J.T.; Popenoe, H.†; Seymour, F.C.†; Shanor, L.; Smith, R.C.; Vasil, I.K.; Ward, D.B.
†Courtesy Appointments

College Advisor; T.W. Lucansky

Students planning a major in botany, either in the College of Agriculture or in the College of Arts and Sciences, should consult a departmental advisor as early as possible. The major in Botany shall consist of not less than 36 credits, including BSC 2010, BSC 2011, BOT 2011, PCB 3043, BOT 3503-3503L, BOT 3303 or BOT 5225 and BOT 3153 or 5725. The remaining hours of electives for the major will be chosen to meet the particular interest of the student for specialization in botany. Courses are to be selected from among the following: BOT 3800, 4053, 4283, 4905, 5625, 5046, 5695, 5505, 5435, 5405, 5485, 5755, 5225, 5725, and PCB 5115. Majors are also required to present credit for a course in genetics (AGR 3303 or PCB 3063), a year of general chemistry (CHM 2040-2043 or CHM 2045-2047) a course in organic chemistry (CHM 3200-3200L or CHM 3210, 3210L, 3211, 3211L, a year of college physics or equivalent (PHY 2002-2003 or PHY 2050, 2051, 2052 with accompanying labs), MAC 2223 or 3311. Those who are planning to pursue graduate study should include in their program two years of a foreign language. For other degree requirements and programs see Agriculture, Lower Division; Botany; Agriculture, Upper Division; B. S. in Biology, College of Liberal Arts and Sciences.

DEPARTMENTAL HONORS

To be eligible to work for departmental honors in Botany, a student must have a minimum grade point average of 3.0 overall and 3.2 in at least 20 hours of Botany. Seniors working for departmental honors in Botany will be expected to enroll in BOT 4905 for 2 quarters of the Senior year. Approval to undertake honors work must be secured from a departmental advisor prior to the first registration for BOT 4905.

Biochemistry

BCH 3023 Elementary Organic and Biological Chemistry. F, SS.
Credits: 5; Prereq: CHM 2041.
Elementary organic chemistry and biochemistry for students in the agricultural technical curricula. This is a terminal course and is not part of any sequence of courses in the Chemistry Department.

Botany

BOT 1010C Introductory Botany. F, S.
Credits: 5
Structures and functions of cells, tissues, and organs of flowering plants. Students with credit APB 2152 or equivalent or BSC 2010 may not register for credit in this course, but should take BOT 2011.

BOT 2011C General Botany. F, W, S ('80), SS ('81).
Credits: 5; Prereq: BSC 2010C or APB 2152 or equivalent.
Survey of major plant groups with regard to structure, life histories and classification.

BOT 2710 Practical Plant Taxonomy. F.
Credits: 3
An introductory course for higher plant taxonomy, including consideration of principles of systematic botany, nomenclature and classification, but emphasizing identification. A student completing this course should be able to identify the common ferns, fern allies, gymnosperms and flowering plants of field and garden.

BOT 3153C Local Flora. S, SS.
Credits: 3; Prereq: BSC 2010C or equivalent.
Laboratory observation of the gross features of vascular plants and practice in use of keys to identify plants. Elementary ecology of principal types of plant communities in northern Florida. Field trips.

BOT 3173C Weed Identification. S.
Credits: 2; Prereq: BOT 2011C or equivalent.
The identification of weeds in Florida, their distribution and importance in different areas of the state. May be taken in conjunction with PLS 4601 Weed Science.

BOT 3303C Introductory Vascular Plant Morphology. S ('80).
Credits: 5; Prereq: BOT 2011C or equivalent.
Salient features of representative members of each group. Consideration of origin of land plants and primitive land plants. Emphasis given to principles on which morphological and anatomical interpretations are made.

BOT 3503 Elementary Plant Physiology. W, S.
Credits: 4; Prereq: BOT 1020C or BSC 2010-2012C or APB 2152 and APB 2152L, CHM 2043.
The chemical organization, cellular organization, metabolism, nutrition and growth of the higher plants.

BOT 3503L Elementary Plant Physiology Laboratory. W, S, SS.
Credits: 2; Coreq: BOT 3503.
Laboratory experiments to accompany BOT 3503.

BOT 3800 Plants in Human Affairs. W ('81).
Credits: 3
The role of crop plants in the development of human civilization, and their effect on the course of world history, politics, economy, and culture. Survey of important plants and plant products used by man for various purposes.

BOT 4053 Practical Experience in Teaching Botany. F, W, S, SS.
Credits: 3; Prereq: senior status with recommendations from two faculty members, including the course instructor.
Participation in teaching lower division botany courses with practical experience in instructional procedures, testing and grading, course and laboratory preparation and laboratory assistance. May be repeated with change of content up to a maximum of 6 credits.

BOT 4283C Microtechnique. S ('81).
Credits: 3; Prereq: one year college biology.
Practice in methods of preparing, recording, and illustrating biological materials for microscopic studies.

BOT 4905 Individual Studies in Botany. F, W, S, SS.
Credits: 3; Prereq: at least twelve hours of botany and consent of instructor.
Qualified students and the instructor choose a particular problem for study. May be repeated for a maximum of six credits.

Process Biology

PCB 3043C Introduction to Ecology. F.
Credits: 5; Prereq: introductory college biology.
Basic principles of ecology as they apply to environmental problems, including major terrestrial and aquatic ecosystems of Florida.

GRADUATE COURSES
Applied Biology

APB 5415 Radioisotope Theory and Techniques. W.
Credits: 5

Botany

BOT 5225C Plant Anatomy. W.
Credits: 5

BOT 5405C Phycology. F.
Credits: 5

BOT 5435C Introductory Mycology. W, SS ('81).
Credits: 5

BOT 5485C Mosses and Liverworts. F ('80).
Credits: 5

BOT 5505C Intermediate Plant Physiology. F.
Credits: 5

BOT 5625 Plant Geography. F ('80).
Credits: 3

BOT 5695 Ecosystems of Florida. S.
Credits: 5

BOT 5725C Taxonomy of Seed Plants. S.
Credits: 5

BOT 5755C Lower Vascular Plants. S ('81).
Credits: 5

BOT 6316C Developmental Morphology of Flowering Plants. W ('81).
Credits: 5

BOT 6326C Methods and Applications of Plant Cell and Tissue Culture. S.
Credits: 5

BOT 6346C Biology and Taxonomy of the Myxomycetes and Phycomycetes. F ('80).
Credits: 5

BOT 6446 Biology and Taxonomy of the Basidiomycetes. SS ('80).
Credits: 5

BOT 6466C Biology and Taxonomy of Ascomyetes and Their Imperfect Stages. S ('80).
Credits: 5

BOT 6476C Lichenology. F ('81).
Credits: 5

BOT 6496C Fungal Physiology. F ('80).
Credits: 5

BOT 6516 Plant Metabolism. W.
Credits: 3

BOT 6526 Plant Nutrition. F ('80).
Credits: 3

BOT 6566 Plant Growth and Development. SS ('81).
Credits: 3

BOT 6576 Photophysiology of Plant Growth. W ('81).
Credits: 4

BOT 6646C Ecology of Aquatic Plants. SS ('80).
Credits: 5

BOT 6666 Advanced Tropical Botany.
Credits: 12

BOT 6716C Advanced Taxonomy.
Credits: 3

BOT 6905 Individual Studies in Botany. F, W, S, SS.
Credits: 1 to 5, maximum of 10 in each area.

BOT 6910 Supervised Research.
Credits: 1 to 5††

BOT 6927 Advances in Botany. F, W, S, SS.
Credits: 1 to 5, maximum of 5.

BOT 6936 Graduate Student Seminar. F, W, S.
Credits: 1

BOT 6940 Supervised Teaching. F, W, S, SS.
Credits: 1 to 5††

BOT 6951 Tropical Biology: An Ecological Approach.
Credits: 12

BOT 6971 Master's Research. F, W, S, SS.
Credits: 1 to 15††

BOT 7980 Doctoral Research. F, W, S, SS.
Credits: 1 to 15††

Process Biology

PCB 5046C Advanced Ecology. F.
Credits: 4

PCB 6176 Electron Microscopy of Biological Materials. W.
Credits: 2

PCB 6176L Laboratory in Electron Microscopy. W.
Credits: 2

PCB 6216 Cytochemistry. S ('81).
Credits: 4

PCB 6356C Ecosystems of the Tropics. W.
Credits: 4

PCB 6626C Fungal Genetics. F ('81).
Credits: 5

BROADCASTING
College of Journalism and Communications

INSTRUCTIONAL STAFF, 1979-80

Smeyak, G.P., Chairman; Christiansen, K.A.; Conner, H.H.; Counts, F.S.; De Los Santos, A.E.; Edwardson, M.N.; Grooms, D.A.; Humphries, G.F.; Jacobs, A.J.; Pactor, H.S.; Staehle, D.C.; Wells, E.L.

Offerings in Broadcasting are designed primarily for those planning professional careers in radio and television media and in related fields. These courses, however, may be taken for elective credit by students in all Upper Division units of the University. Students interested in major work in Radio, Television, Advertising, Journalism and Public Relations are also referred to course offerings under Advertising and Journalism and to the requirements of the College of Journalism and Communications.

Education: Technology and Media
GRADUATE COURSES

RTV 5603 Teaching Through Television. SS.
Credits: 4; Prereq: Senior or Graduate Standing.
For graduate courses in this area, see listings under Communications.

Film

FIL 3210 Film Production for Industry (8 mm). S.
Credits: 3
Preparation of inexpensive documentaries and training films using Super 8mm sound and silent cameras. Emphasis on uses in public relations. Student will pay for film and developing.

FIL 4200 Communicative Elements in Film Production. W.
Credits: 4
Study of films with reference to the contribution made by their components to the film-makers statement and intent. Emphasis will be placed upon the non-fiction film.

FIL 4202 Cinematography for TV. F, W, S, SS.
Credits: 4; Prereq: RTV 2000, RTV 3100, RTV 3210, or permission of instructor.
A basic course in handling motion picture equipment and filming assignments for television. Students are required to provide class materials, including cost of raw film stock and cost of film processing.

Radio-Television

RTV 2000 Introduction to Broadcasting. F, W, S, SS.
Credits: 3
An introduction to the cultural, social, legal, business and career aspects of Broadcasting.

RTV 3100 Broadcast Writing. F, W, S, SS.
Credits: 4; Prereq: MMC 2100 and RTV 3210 or permisson of instructor.
Writing for radio and television: announcements, interviews, music, special events, documentaries, commentaries.

RTV 3210 Broadcast Production 1. F, W, S, SS.
Credits: 3; Prereq: RTV 2000, junior standing, or permission of instructor.
Fundamentals of broadcast announcing, presentation, and interviewing; audio control room procedures; audio recording and editing; use of music and sound effects.

RTV 3220 Broadcast Production 2. F, W, S, SS.
Credits: 3; Prereq: RTV 3210.
Basic television production and direction, audio and video controls, studio cameras, slide and film projection, staging, lighting, graphics, composition.

RTV 3221 Advanced Television Production. F, W, S, SS.
Credits: 3; Prereq: RTV 3220.
Advanced application of television production and direction, staging, lighting, graphics, video control and composition.

RTV 3300 Broadcast New Writing. F, W, S, SS.
Credits: 4; Prereq: MMC 2100, and ability to type 30 words per minute. Coreq: RTV 3210.
Basic instruction and practice in news gathering, writing and announcing, with special attention given to the handling of reporting assignments for the broadcast news media.

RTV 3301C Advanced Broadcast News. F, W, S, SS.
Credits: 4; Prereq: RTV 3300, FIL 4202.
Advanced instruction and practice in news gathering and writing, with special attention on television reporting assignments.

RTV 3403 Mass Media Processes and Effects, F, W, S.
Credits: 4
The flow and impact of messages from mass media; includes consideration of semantics, attitude change, behavior modification, and current theories of communication behavior.

RTV 3405 Analysis of Television Content. F, W, S.
Credits: 4
Enables the non-broadcasting major to use television productively and to understand its structure and effects. Research findings concerning audience behavior and criteria for evaluating television programs will be discussed.

††Grading is on S-U basis only.

Descriptions

BUILDING CONSTRUCTION

RTV 4101 Radio-TV-Film Documentary Writing. W.
Credits: 3; Prereq: Senior standing in the College of Journalism; RTV 3100 and RTV 3210 or permission of instructor.
Researching, writing, and planning the radio, television, and film documentary.

RTV 4206 Advanced Television Directing. W, S.
Credits: 3; Prereq: Senior standing in the College of Journalism; RTV 3100, RTV 3221 and permission of instructor.
A study of the aesthetic and psychological factors of television production and their creative application in program production and execution.

RTV 4302 Radio-TV Reporting. F, W, S.
Credits: 4; Prereq: RTV 3300, RTV 3301 and Senior standing in the College of Journalism and Communications.
News writing, editing and processing for the broadcast media.

RTV 4304C Broadcast News Supervision. F, W, S, SS.
Credits: 4; Prereq: FIL14202, RTV 4302 and permission of instructor.
To develop administrative skills by providing training and information about the role of news and public affairs in a station's entire operation, with emphasis on preparing students for careers in management areas of broadcast news and public affairs.

RTV 4311 Documentary for Radio-TV-Film. S.
Credits: 4; Prereq: FIL 4202 and RTV 4101.
Producing the radio, television and/or film documentary. Students will be required to provide certain class materials for the documentary production process.

RTV 4500 Broadcast Program Management, F, W, S, SS.
Credits: 4; Prereq: RTV 3100 or RTV 3220, RTV 3404, Senior standing in the College of Journalism and Communications.
Program planning and schedule building.

RTV 4905 Individual Projects in Radio, Television and Film, F, W, S, SS.
Credits: 1 to 5; Prereq: At least 15 hours of Broadcasting courses in the Upper Division and approval of the Chairman and the Dean.
Projects must also have the approval of the Broadcasting faculty. The student and the instructor concerned will choose a problem or project which will give the student experience in this major field.

RTV 4930 Special Study in Broadcasting. F, W, S.
Credits: 1 to 5; Permisson of the instructor.
Variable content, providing opportunity for study in areas of Broadcasting such as Television Staging and Lighting. Film Criticism, Communication Theory and other fields. (May be repeated once for a total of 6 credits.)

RTV 4931 Seminar; Ethics and Problems in Broadcasting. F, W, S, SS.
Credits: 4. Open only to Broadcasting Seniors in their graduating quarter, or upon approval of instructor.
Investigation and discussion of social problems, ethics, and responsibilities in broadcasting.

RTV 4940 Broadcasting Internship. F, W, S, SS.
Credits: Credits: 1 to 5††; Prereq: Minimum of 15 hours of professional courses earned and a 2.5 grade point average. Must have advance approval from academic adviser, department and college offices to receive credit.
Student and instructor will select an appropriate work area related to the field of broadcasting for on-the-job training. Student will work a minimum of three hours on the job for every hour of credit to be received. Progress reports and summary required. May be repeated with change of content up to a maximum of 10 credits.

††Grading is on S-U basis only.

RTV 4949 Co-op Work Experience. F, W, S, SS.
Credits: 1††; Prereq: Minimum of 15 hours professional courses earned and a 2.5 GPA. Must have advance approval from academic adviser, department and colleges offices to receive credit.
Practical co-op work experience relating to broadcasting under approved business, institutional or governmental supervision. May be repeated with changed work program upon departmental approval.

BUILDING CONSTRUCTION
School of Building Construction

INSTRUCTIONAL STAFF 1979-80

Halperin, D.A., Director; Aderholdt, R.W.; Anglin, G.; Brown, B.H., Jr.; Cox, R.E.; Crosland, R.E.; Eppes, B.G.; Grim, C., Jr.; Gunby, W.R.; Holland, H.; Martin, J.; Martin, T.E.; Rodriguez, W.; Strange, L.; Trimmer, J.M.; Underberger, H.L.; Waldo, W.; Ziegler, C.D.

BCN 1210 Construction Materials. F, W, S.
Credits: 4
Sources, properties and uses of construction materials.

BCN 3223 Construction Techniques 1. F, W, S.
Credits: 5; Prereq: ARC 1126, BCN 1210
Study and analysis of job planning required, work methods, materials and equipment employed on light construction projects which include residential and small commercial buildings.

BCN 3224 Construction Techniques 2. F, W, S.
Credits: 5; Prereq: BCN 3223.
Continuation of BCN 3223, Construction Techniques 1, as applied to medium commercial and industrial construction projects.

BCN 3225 Construction Techniques 3. F, W, S.
Credits: 5; Prereq: BCN 3224.
Continuation of BCN 3224, Construction Techniques 2, as applied to heavy commerical and industrial construction projects. This course is prerequisite to every BCN 4xxx course.

BCN 3256C Construction Drawing. F, W, S.
Credits: 2, Prereq: ARC 1126.
Principles and practices of drawing applied to construction.

BCN 3281L Construction Methods Laboratory. F, W, S.
Credits: 3; Prereq: MAC 1132.
Construction aspects of surveying with field and classroom exercises in the use of transit, level, chain and related equipment.

BCN 3401 Construction Mechanics 2. F, W, S.
Credits: 5; Prereq: MAC 2223, PHY 2002C, BCN 2400.
The study of stresses and strains and external forces on indeterminate members as applied to the design of structures. Primarily for building construction majors.

BCN 3431 Structures 1. F, W, S.
Credits: 4; Prereq: BCN 3401.
Theory and principles of design of steel structural elements and connections and their applications in construction.

BCN 3461 Structures 2. F, W, S.
Credits: 4; Prereq: BCN 3401
Theory and principles of design of wood and timber structural elements and connections and their applications in construction.

BCN 3611 Quantity Surveying. F, W, S.
Credits: 4; Prereq: BCN 3224. Coreq: BCN 3225.
Classification of work and quantity survey techniques applied to construction projects.

BCN 4012 History of Construction. F, W, S, SS.
Credits: 4; Prereq: Senior standing.

BCN 4227 Construction Techniques 4. S.
Credits: 4; Prereq: BCN 3225.
Advanced continuation of BCN 3225, Construction Techniques 3.

BCN 4462 Structures 3. F, W, S, SS.
Credits: 4; Prereq: BCN 3431.
Theory and principles of design of reinforced concrete structural elements and their applications in construction.

BCN 4464 Temporary Structures. W, SS.
Credits: 4; Prereq: BCN 3461, 3225.
Design and erection of temporary construction structures.

BCN 4500 Environmental Technology 1. F, W, S, SS.
Credits: 4; Prereq: PHY 2003C, senior standing.
Principles and practices of building piping systems and consideration of code requirements and cost estimation.

BCN 4510 Environmental Technology 3. F, W, S, SS.
Credits: 4; Prereq: PHY 2003C, BCN 3223, 4500, 4521.
Principles and practices of year-around air conditioning, ventilation and sound control in buildings including code provisions and cost estimation.

BCN 4521 Environmental Technology 2. F, W, S, SS.
Credits: 4; Prereq: PHY 2003C, senior standing.
Principles and practices of electrical systems and vertical transportation for buildings including code provisions and cost estimation.

BCN 4612 Construction Estimating. F, W, S, SS.
Credits: 4; Prereq: BCN 3611
Analysis and determination of costs of construction operations including applicable indirect and overhead costs and the preparation of bid proposals for construction projects.

BCN 4620 Cost Estimate Analysis. F, S.
Credits: 4; Prereq: ACC 2001, BCN 4612.
Comparative analysis of actual and estimated costs as used for project control.

BCN 4700 Construction Management 1. F, W, S, SS.
Credits: 4; Prereq: BUL 4112, BCN 3224, senior standing.
Management principles, methods and problems relating to construction.

BCN 4710 Construction Management 3. F, W, S, SS.
Credits: 4; Prereq: BCN 4750.
Continuation of Construction Management 2.

BCN 4713 Construction Labor. F, W.
Credits: 4; Prereq: Senior standing and BCN 4700.
A history of the construction labor movement and other factors leading to the construction labor market as it exists today, as well as an analysis of these problems from the viewpoint of construction unions, non-union construction labor, legal and construction management.

BCN 4720 Construction Planning and Control. F, W, S, SS.
Credits: 4; Prereq: COP 3110, BCN 4612.
Time-cost relationships for the various construction operations.

BCN 4750 Construction Management 2. F, W, S, SS.
Credits: 4; Prereq: BCN 4700, ACC 2001.
Continuation of Construction Management 1.

BCN 4751 Site Development. F, W, S, SS.
Credits: 4; Prereq: BCN 3256, 3225, 4612, 4750.
Principles and practices of residential, business and industrial land development.

GRADUATE COURSES

BCN 5226 Advanced Construction Techniques. S.
Credits: 4; Prereq: BCN 3225.

BCN 5463 Construction Structures. W, S.
Credits: 4; Prereq: BCN 3461, 3225.

BCN 5528 Survey of Construction Techniques. W.
Credits: 5

BCN 5625 Construction Cost Analysis. F, S.
Credits: 4; Prereq: ACC 2001, BCN 4612.

BCN 5715 Advanced Construction Labor Problems. F, W.
Credits: 4

BCN 5905 Special Studies in Construction. F, W, S. SS.
Credits: 1 to 5, max. of 15; Prereq: Senior or graduate standing.

BCN 6910 Supervised Research.
Credits: 1 to 5††

BCN 6931 Construction Management. F, W, S, SS.
Credits: 1 to 10, maximum of 15.

BCN 6932 Building Construction Management. F, W, S, SS.
Credits: 1 to 10, maximum of 15.

BCN 6933 Building Research. F, W, S, SS.
Credits: 1 to 10, maximum of 15

BCN 6934 Construction Research. F, W, S, SS.
Credits: 1 to 10, maximum of 10

BCN 6940 Supervised Teaching.
Credits: 1 to 5††

BCN 6971 Master's Research. F, W, S, SS.
Credits: 1 to 15††

BUSINESS ADMINISTRATION — GENERAL
College of Business Administration
INSTRUCTIONAL STAFF 1979-80

Ray, J.B.; Wyatt, J.W.

Business Law

BUL 4100 Business Law. F, W, S, SS.
Credits: 5
Introduction to the legal system as an aspect of the business environment. Litigations; Legal Reasoning; the functions of a Legal System, Examples taken primarily from the Law of Contracts and Agency.

BUL 4112 Business Law. F, W, S, SS.
Credits: 5
A study of the fundamental principles governing the law of contracts, Commercial Paper, Documents of Title, Sales, Secured Transactions and related subject areas. Primary emphasis is given to the Uniform Commercial Code.

BUL 4305 Business Law. F, W, S, SS.
Credits: 4; Prereq: BUL 4100, 4112.
Real and Personal Property, Mortgages and Liens, Landlord and Tenant, Wills, Trusts, Decedents' Estates, Bankruptcy, Agency Partnerships, Corporations.

Computer Applications

CAP 2010 Introduction to EDP. F, W, S, SS.
Credits: 4
An introduction to the basic elements of the computer system, computer terminology, and concepts of data structures and file processing.

General Business

GEB 4949 Co-op Work Experience. F, W, S, SS.
Credits: 1; Taken on S-U basis only. Prereq: Consent of the Cooperative Education Coordinator and the Department Chairman.
Applied work in business administration. Requires several papers and reports. May be repeated with change of content up to a maximum of 10 credits.

Quantitative Methods in Business

QMB 3700 Quantitative Methods for Business and Economic Analysis. F, W, S, SS.
Credits: 5; Prereq: MAC 3311-3312 STA 3023, ECO 3411.
Quantitative techniques and analysis for business and economic decision making under conditions of uncertainty, risks, and assumed certainty. Topics include some aspects of calculus, matrix algebra, probability theory, linear programming and game theory.

GRADUATE COURSES

For admission to courses listed below, the student must have been admitted to the Graduate School and normally should have undergraduate courses in fields pertinent to the graduate courses selected; or where necessary, special arrangements may be made with the approval of the dean.

Computer Applications

CAP 5009 Computer Concepts in Business.
Credits: 3

CAP 5021 Computer Based Business Management. F, W, S, SS.
Credits: 4

Finance

FIN 6937 Advanced Finance Topics.
Credits: 4

General Business

GEB 5756 Introduction to Managerial Statistics.
Credits: 4

GEB 5805 Mathematical Methods and their Application to Business and Economic Analysis. F, S.
Credits: 5

GEB 6705 Managerial Accounting.
Credits: 4

GEB 6757 Managerial Quantitative Analysis.
Credits: 5

Management

MAN 6108 Concepts and Methods in the Behavioral Science
Credits: 5

MAN 6156 Human Behavior in Organizations.
Credits: 4

MAN 6721 Business Policy
Credits: 4

Marketing

MAR 6716 Problems and Methods of Marketing Management.
Credits: 4

Statistics

STA 6357 Analysis of Decisions Under Uncertainty.
Credits: 3

STA 6358 Statistical Analysis for Managerial Decisions.
Credits: 3

CAREER DEVELOPMENT PROGRAM
College of Liberal Arts and Sciences
INSTRUCTIONAL STAFF 1979-80

Griffis, C.S., Director.

General Information

The Career Development Program offers students an opportuity to explore factors which will assist them in determining career and life choices. Courses are interdisciplinary and focus on a systematic process for value clarification, decision-making, goal setting, career options and techniques for the job search. Students design career patterns to meet their personal, educational and professional goals. Career opportunities in business, industry and government are viewed in terms of trends in the economy. Courses are offered for elective credit. No prerequisites are required.

STD 4151 Career Development
Credits: 4
Exploration of factors which determine career and life choices, focusing on personal goals and values, college majors, and career opportunities in the fields of business, industry and government. Career patterns are designed to meet personal, educational and professional goals. Current trends in the economy are explored in the assessment of career opportunities.

STD 4905 Independent Work.
Credits: 1 to 5
Designed for students who wish to investigate a particular area of interest in career development. Also used for special topics courses. May be repeated with change of content.

CHEMICAL ENGINEERING
College of Engineering
INSTRUCTIONAL STAFF 1979-80

Biery, J.C., Chairman; Anderson T.J.; Block, S.S.; Fahien, R.W.; Gordon, R.J.; Hoflund, G.B.; Johns, L.E., Jr.; Kirmse, D.W.; Lee, H.H.; May, F.P.; O'Connell, J.P.; Shah, D.O.; Tyner, M.; Walker, R.D.

Chemistry

GRADUATE COURSES

CHM 5272 The Organic Chemistry of Polymers. F.
Credits: 3

CHM 5511 Physics & Physical Chemistry of Polymers. S.
Credits: 3

Computer Applications

CAP 3210 Computer Model Formulation. F, S.
Credits: 3; 2-1 hr. lec., 1-2 hr. dis. Prereq: MAC 3314, COP 3210; Coreq: MAP 3302 or EGM 3311.
Solutions of scientific and engineering problems using digital computers. Formulation of models for describing physical processes, numerical analysis, computer programming.

Engineering:

ECH 1001 Freshman Seminar in Chemical Engineering. F, W, S.
Credits: 1 to 2, 1 to 2-1 hr. dis.
Small group discussion with a faculty member interested in a field of chemical engineering endeavor. Consult department for particular subjects offered each term. May be repeated with change of content for a maximum of 4 credits.

††Grading is on S-U basis only.

Descriptions

CHEMICAL ENGINEERING

ECH 3012 Elements of Chemical Engineering 1. F, W.
Credits: 2 to 5, 3-1 hr. lec., 1-1 hr. dis.; Coreq: CHM 2047, PHY 2042, MAP 3302 or EGM 3311.
Process synthesis in chemical engineering with emphasis on mass balancing.

ECH 3023 Introduction to Chemcal Engineering. F, S.
Credits: 2 to 5, 5-1 hr. lec., 1-1 hr. dis. Prereq: PHY 2042, CHM 2047, ECH 3012.
The conservation laws of mass and energy applied to the soluton of industrial chemical process problems.

ECH 3023L Chemical Engineering Lab 1.
Credits: 1, 1-1 hr. lec, 1-2 hr. lab.
Conservation laws, process measurements in engineering chemistry.

ECH 3101 Chemical Engineering Thermodynamics 1. S.
Credits: 3; Prereq: ECH 3023; Coreq: CHM 4411
The principles of classical and statistical thermodynamics, and their application to systems of constant composition.

ECH 3109 Seminar in Chemical Engineering Thermodynamics. S.
Credits: 2, 2-1 hr. lec; Coreq: CHM 4411.
Discussion of chemical engineering applications of the first and second laws in systems of constant composition.

ECH 3203 Chemical Engineering Operations 1. F, W.
Credits: 3, 3-1 hr. lec; Coreq: ECH 3023.
Fluid mechanics of chemical engineering systems. Non-Newtonian flow. Mixer design. Fluidization. Filtration.

ECH 3204 Chemical Engineering Operations 2. S.
Credits: 3, 3-1 hr. lec.; Prereq: ECH 3203.
Heat transfer and applications to heat exchanges, crystallization, drying.

ECH 3303 Process Systems Analysis. F, W.
Credits: 2: 2-1 hr. lec.; 1-1 hr. dis.; Prereq: MAP 3302 or EGM 3311; Coreq: ECH 3023.
Analysis of transients in process systems. Analog computation in chemical engineering.

ECH 3303L Chemical Engineering Laboratory 2. F, W.
Credits: 2 1-1 hr. lec.; 1-3 hr. lab.; Prereq: or Coreq: ECH 3303.
Laboratory work associated with ECH 3303.

ECH 3783 Technology and Survival. W, S.
Credits: 3, 3-1 hr. lec.
Technological problems relating to the quality of life and survival in the world of today and tomorrow. Considered are the limits of mineral and energy resources, population, food, pollution and environmental deterioration.

ECH 3803 Chemistry in Engineering. S.
Credits: 4, 4-1 hr. lec.; Prereq: CHM 2046 or CHM 2042.
Application of the principles of chemistry in the solution of common engineering problems. Primarily for non-chemical engineering students.

ECH 3804L. Chemical Engineering Laboratory 3. F, W, S, SS.
Credits: 2, 1-1 hr. lec., 1-3 hr. 1-1 hr. dis.; Prereq: CHM 2047.
Laboratory work and demonstrations of instrumentation for process measurement and control.

ECH 4123 Chemical Engineering Thermodynamics 2. F.
Credits: 5, 5-1 hr. lec.; Prereq: ECH 3109 or 3101.
The application of thermodynamic principles to systems of variable composition, including the study of phase and chemical equilibria.

ECH 4144 Molecular Phenomena in Chemical Engineering.
Credits: 4, 2-1 hr. lec.; 2-1 hr. dis.; Prereq: ECH 4123.
Basic statistical mechanical relations for equilibrium and nonequilibrium properties of real systems, intermolecular forces, properties at surfaces and interfaces.

ECH 4145 Applied Molecular Theory. W.
Credits: 3, 3-1 hr. lec., Prereq: ECH 4123.
The application of statistical thermodynamics and kinetic theory in the description of the behavior of pure fluids and fluid mixtures.

ECH 4221L Chemical Engineering Laboratory 9.
Credits: 1, 1-3 hr. lab.; Prereq: ECH 4224.
Individual laboratory work not necessarily associated with a particular course.

ECH 4224L. Chemical Engineering Operations Laboratory. 1. F, W, SS.
Credits: 3, 1-1 hr. dis., 1-2 hr. dis., 1-4 hr. lab; Coreq: ECH 3204.
Laboratory work in unit operations involving heat and momentum transfer.

ECH 4264 Elementary Transport Phenomena. F, S.
Credits: 3, 3-1 hr. lec., 1-1 hr. dis.; Prereq: Senior standing or permission of instructor.
Flux laws and conservation equations for heat, mass and momentum transport in rectangular, cylindrical and spherical geometries; applications to laminar and turbulent flow systems.

ECH 4264L Chemical Engineering Laboratory 4.
Credits: 1, 1-3 hr. lab.; Prereq. or Coreq: ECH 4264.
Laboratory work associated with ECH 4264.

ECH 4281 Multidirectional Transport Phenomena. W.
Credits: 2 to 4; 2 to 4-1 hr. lec.; Prereq: ECH 4264.
Equations of change for energy, mass, and momentum transport in vector form applied to multidirectional problems.

ECH 4323 Process Control Theory. S.
Credits: 3, 3-1 hr. lec.; 1-1 hr. dis.; Prereq: ECH 3303 CAP 3210, or consent of instructor.
The analysis and automatic control of simple process systems in chemical engineering.

ECH 4323L Chemical Engineering Laboratory 5. S.
Credits: 1, 1-3 hr. lab; Coreq: ECH 4323.
Laboratory work associated with ECH 4323.

ECH 4403 Chemical Engineering Operations 3. F, SS.
Credits: 3, 3-1 hr. lec., 1-1 hr. dis.; Prereq: ECH 3203.
Theory, design, and evaluation of diffusional mass transfer processes including distillation, absorption and extraction.

ECH 4404L Chemical Engineering Operations Laboratory 2. F, W, S.
Credits: 3, 1-1 hr. dis., 1-2 hr. dis., 1-4 hr. lab; Prereq: ECH 4224, 4403.
Laboratory work in unit operations involving mass transfer.

ECH 4504 Chemical Kinetics and Processing. F, SS.
Credits: 3, 3-1 hr. lec., 1-1 hr. dis.; Prereq: ECH 3101.
Concepts of elementary, complex and catalytic kinetics as applied to the engineering design of batch, backmix, tubular and fluidized bed reactors.

ECH 4504L Chemical Engineering Laboratory 7. F, W, S.
Credits: 2, 1-3 hr. lab. Prereq. or Coreq: ECH 4504.
Laboratory work associated with ECH 4504.

ECH 4524 Reactor Dynamics and Design. W.
Credits: 3, 2-1 hr. lec.; 1-1 hr. dis.; Prereq: ECH 4504.
Analysis of chemical reactor transient behavior and stability. Pilot plant models and scale up methods. Introduction to optimal design and its application.

ECH 4604 Synthesis and Specification of Process Designs. W.
Credits: 3, 3-1 hr. lec.; Prereq: ECH 3204, ECH 4403.
An introductory chemical process design course. Basic considerations in the synthesis and selection of processes, developing flow sheets, and preparing equipment specifications. Case study design problems in preparation for ECH 4644.

ECH 4605 Process Economics. W.
Credits: 3, 3-1 hr. lec.; Coreq: ECH 4604.
Engineering economy principles in the chemical field. Chemical industry economics and finance. Investment requirements, cost estimates, and profitability of chemical processes. Feasibility studies.

ECH 4624 Process Optimization.
Credits: 3, 3-1 hr. lec.; Prereq: 4EG Classification.
A review of mathematical techniques for handling multistage decision problems encountered in process design and control. Introduction to dynamic programming.

ECH 4644 Process Design. S.
Credits: 3, 2-1 hr. lec., 1-3 hr. lab.; Prereq: ECH 4604, ECH 4605, ECH 4504, ECH 4123, ECH 4824.
Preliminary design of convention chemical processes, including process specifications, siting and layout, equipment sizing, utility and manpower needs, environmental considerations and economic evaluation. Planning techniques for detailed engineering, construction, and startup.

ECH 4664 Advanced Process Design. F.
Credits: 3, 3-1 hr. lec.; Prereq: ECH 3204, ECH 4123, CAP 3210.
Computer aided design using programming systems for planing schedules steady-state and dynamic chemical plant simulation. Programming and data structures. Process module development project.

ECH 4704 Organic Chemical Processing.
Credits: 3, 3-1 hr. lec.; Prereq: Organic Chemistry.
The fundamental principles involved in the manufacture of organic compounds.

ECH 4705 Electrochemical Engineering.
Credits: 3, 3-1 hr. lec.; Coreq: CAP 3210 or EMA 3010.
Application of the princples of transport phenomena and mass transfer theory to the analysis of electro chemical processes, and to problems of scale-up and design.

ECH 4724 Interfacial Phenomena for Engineers. S.
Credits: 3, 3-1 hr. lec., 1-1 hr. dis.; Prereq: CHM 2040 or consent of instructor.
Theoretical and Practical aspects of interfaces and surfactants in wetting, solubilization, foams, and emulsions, lubrication, flotation of minerals, and biomedical applications.

ECH 4824 Materials of Chemical Engineering. W.
Credits: 1 to 3, Prereq: ECH 4123.
Relations between microscopic structure and macroscopic mechanical, thermal, and electrical properties of organic and inorganic solids. Engineering applications, including corrosion.

ECH 4825 Polymeric Materials.
Credits: 3, 3-1 hr. lec.; Prereq: Organic Chemistry.*
Theoretical and practical aspects of plastics, elastomers, fibers, coatings and other polymeric materials.

ECH 4842 Methematical Methods in Chemical Engineering. W.
Credits: 3, 3-1 hr. lec.; Prereq: ECH 3204 or consent of instructor.*
The application of mathematics to chemical engineering calculations, including ordinary, and partial differential equations. Numerical, analytical and computer calculations.

ECH 4905 Special Problems in Chemical Engineering. F, W, S, SS.
Credits: 1 to 6. May be repeated for a maximum of 12 credits.

ECH 4934 Professional Seminar. F, W, S.
Credits: 1, 1-1 hr. lec.

ECH 4944 Practical Work in Chemical Engineering. F, W, S, SS.
Credits: 1 to 5.

ECH 4949 Co-op Work Experience. F, W, S, SS.
Credits: 1††; maximum of 5; Prereq: Freshman year.
Practical co-op work experience under approved industrial supervision, as set forth in College Regulations.

GRADUATE COURSES

ECH 5344L Process Systems Laboratory. W.
Credits: 3

ECH 5708 Disinfection, Sterilization, and Preservation. W.
Credits: 3

ECH 6126 Thermodynamics of Reaction and Phase Equilibria. F.
Credits: 3

ECH 6146 Applied Statistical Mechanics.
Credits: 3

ECH 6147 Statistical Thermodynamics. W.
Credits: 3

ECH 6159 Seminar in Thermodynamics.
Credits: 2. Maximum of 6 credits.

ECH 6206 Turbulent Transport Phenomena.
Credits: 3

ECH 6207 Rheology.
Credits: 3

ECH 6208 Non-Newtonian Fluid Dynamics.
Credits: 3

ECH 6226 Heat Transfer Operations.
Credits: 3

ECH 6261 Introduction to Transport Phenomena. F.
Credits: 3

ECH 6263 Advanced Transport Phenomena. S.
Credits: 3

ECH 6269 Seminar in Transport Phenomena.
Credits: 2. Maximum of 6 credits.

ECH 6285 Transport Phenomena. W.
Credits: 3

ECH 6286 Interfacial Transport Phenomena.
Credits: 3

ECH 6296 Transport Properties and Irreversible Thermodynamics.
Credits: 3

ECH 6306 Process Dynamics 1. S.
Credits: 3

ECH 6307 Process Dynamics 2. W.
Credits: 3

ECH 6326 Computer Control of Processes.
Credits: 3

ECH 6328 Seminar in Process Control
Credits: 2. Maximum of 6 credits.

ECH 6406 Mass Transfer Operations.
Credits: 3

ECH 6413 Stagewise Separations Processes.
Credits: 3

ECH 6428 Advances in Separations Processes.
Credits: 3

ECH 6506 Chemical Engineering Kinetics.
Credits: 3

ECH 6526 Reactor Design and Optimization.
Credits: 3

ECH 6606 Process Economy Analysis.
Credits: 3

ECH 6626 Optimization Techniques.
Credits: 3

ECH 6627 Process Systems Optimization.
Credits: 3

ECH 6646 Process Equipment Design.
Credits: 3

ECH 6647 Process and Plant Design.
Credits: 3

ECH 6666 Design Techniques for Process Systems. S.
Credits: 3

ECH 6688 Advances in Process Systems Engineering.
Credits: 3

ECH 6706 Chemical Energy Conversion.
Credits: 3

ECH 6707 Process Engineering.
Credits: 3

ECH 6726 Interfacial Phenomena 1.
Credits: 3

ECH 6727 Interfacial Phenomena 2.
Credits: 3

ECH 6746 Biochemical Engineering.
Credits: 3

ECH 6766 Particulate Systems.
Credits: 3

ECH 6826 Engineering Properties of Organic Materials.
Credits: 3

ECH 6827 Macromolecular Materials.
Credits: 3

ECH 6844 Chemical Engineering Calculations.
Credits: 2

ECH 6845 Models and Methods. W.
Credits: 3

ECH 6846 Multidimensional and Discrete Systems. F.
Credits: 3

ECH 6847 Applied Field Theory.
Credits: 3

ECH 6848 Applied Statistics and Probabilistic Systems.
Credits: 3

ECH 6849 Advances in Numerical and Analytical Computation.
Credits: 3

ECH 6905 Individual Work.
Credits: 1 to 9

ECH 6910 Supervised Research.
Credits: 1 to 5††

ECH 6926 Graduate Seminar. F, W, S.
Credits: 1

ECH 6936 Advanced Seminar in Chemical Engineering.
Credits: 2. Maximum of 6 credits.

ECH 6937 Special Topics in Chemical Engineering 1.
Credits: 1 to 6. Maximum of 12 credits.

ECH 6939 Special Topics in Chemical Engineering 3.
Credits: 1 to 6. Maximum of 12 credits.

ECH 6940 Supervised Teaching.
Credits: 1 to 5††

ECH 6969 Research Proposal Preparation
Credits: 1 to 3, maximum of 6 credits.

ECH 6971 Master's Research.
Credits: 1 to 15††

ECH 7938 Special Topics in Chemical Engineering.
Credits: 1 to 6

ECH 7980 Doctoral Research.
Credits: 1 to 15††

CHEMISTRY
College of Liberal Arts & Sciences

INSTRUCTIONAL STAFF 1979-80

Ohrn, N.Y., Chairman; Bates, R.G.; Battiste, M.A.; Brey, W.S., Jr.; Brown, H.C.; Butler, G.B.; Colgate, S.O.; Deyrup, J.A.; Dolbier, W.R., Jr.; Dorsey, J.G.; Dose, E.V.; Dresdner, R.D.; Eyler, J.R.; Hanrahan, R.J.; Helling, J.F.; Hogen Esch, T.E.; Jones, W.M.; King, R.W.; Laitinen, H.A.; Lowdin, P.O.; Micha, D.A.; Muga, M.L.; Muschlitz, E.E., Jr.; Myers, G.H.; Palenik, G.J.; Person, W.B.; Reid, C.E.; Ryschkewitsch, G.E.; Schmid, G.M.; Sisler, H.H.; Stoufer, R.C.; Tarrant, P.; Vala, M.T.; VanderWerf, C.A.; Weltner, W., Jr.; Williams, K.R.; Winefordner, J.D.; Yost, R.A.; Zoltewicz, J.A.

All *Chemistry Majors* must complete at least the following *Minimum Program* (which may include equivalent transfer course work): CHM 2041C-CHM 2042C-CHM 2043C or CHM 2045C-CHM 2046C-CHM 2047C or CHM 2050C-CHM 2051C-CHM 2052C or CHM 2055C-CHM 2056C-CHM 3120-CHM 3120L-CHM 3210-CHM 3210L, CHM 3211-CHM 3211L, CHM 3610, CHM 4131, CHM 4131L, CHM 4410-CHM 4411-CHM 4411L-CHM 4412. Students entering the College of Liberal Arts and Sciences prior to June, 1980, may elect to graduate under requirements stated in the catalog current when they entered the college.

Completion of the above courses and their prerequisites and a general physics sequence will satisfy the minimum requirements of the College of Liberal Arts and Sciences for a major in chemistry. Any language acceptable to the College of Arts and Sciences is appropriate for this minimum program.

A.C.S. Certified Program: To receive American Chemical Society certification and an adequate preparation for the profession, a student must obtain credit for CHM 2041C-CHM 2042C-CHM 2043C or CHM 2045C-CHM 2046C-CHM 2047C or CHM 2055C-CHM 2056C; CHM 3120, CHM 3120L, CHM 3210, CHM 3210L-CHM 3211-CHM 3211L; CHM 4131-CHM 4131L; CHM 4410-CHM 4411-CHM 4411L-CHM 4412; CHM 3610; CHM 4380 or CHM 4230; any one of CHM 4412L, CHM 4740L, CHM 4150L and CHM 5631L; and four additional hours of advanced chemistry. Corresponding honors courses may be substituted.

The language requirement must be met in German, French or Russian. The student is advised, when possible, to complete the following or their equivalent during the first two years: six quarters of chemistry, PHY 2040-2040L-2041-2041L-2042-2042L, MAC 3311-3312-3313 and MAP 3302.

Preprofessional students: (pre-med, pre-dent., etc.) Normally complete the minimum program and additional courses chosen with the help of the adviser. They are also normally advised to obtain credit for MAC 3311-3312-3313, PHY 2050-2050L-2051-2051L-2052-2052L or PHY 2040-2040L-2041-2041L-2042-2042L, BSC 2010C-2011C-2012C and additional courses in the biological sciences. Any language acceptable to the College of Liberal Arts and Sciences is appropriate for the minimum program and preprofessional requirements.

††Grading is on S-U basis only

Descriptions

CHEMISTRY

Premedical and predental students are advised to not take CLEP exams in physical sciences, biological sciences, and fundamental mathematics as these would generate credits below the level at which such students would normally be taking courses. In a competitive program it is important to present a sound overall record. Those choosing to take CLEP exams in English, humanities, and social sciences should also complete some additional course credits in these areas above the general education level.

Chemistry Education Program: Students wishing to receive a degree in Chemistry through the College of Liberal Arts and Sciences while simultaneously obtaining accreditation for teaching secondary school chemistry should complete the minimum program above and the following education courses: EDF 3135; EDF 3514 or 3604 or 4542 or 4710; ESE 4011; ESE 4210; SCE 4330; ESE 4943. A maximum of 24 credits of this 40 credits of education work may count toward the 90 credit A & S upper division requirement. Students must make applications for admission to the several phases of the Teacher Education Program as outlined in the College of Education section of this catalog.

For additional information, see College of Liberal Arts and Sciences Entrance requirements or Dr. G. H. Myers in 340 Leigh Hall.

Honors Courses: The chemistry department offers honors sequences paralleling its 2000 and 3000 level courses which offer superior students smaller clsses and a more individualized and intensive educational opportunity. The various honor sequences are not prerequisite for each other — for example, one may apply for Organic Chemistry Honors after having completed any of the General Chemistry sequences. Students with above average performance records are encouraged to apply for enrollment in these courses. A number of 4000 level courses are offered each year which are appropriate for Junior and Senior students. Seniors may also apply to take graduate (5000 and 6000 level) courses. Because of the size of the department and its active graduate program, a wide variety of opportunities exists for undergraduates to take advanced level coursework and to conduct research.

Baccalaureate Honors: Honors will be awarded to chemistry majors who earn an overall upper division grade point average of 3.3 or higher and a 3.3 average or higher in all chemistry work attempted, exclusive of CHM 4910, complete CHM 4230, 4380, or any 5000 level chemistry course with at least a B grade, and complete a minimum of 10 quarter hours of CHM 4910 (Senior Research). In addition a thesis based on the research project must be presented to the department of chemistry along with the recommendation of the student's research supervisor. This thesis must contain both discussion and experimental results. The research will normally be carried out under the direction of a member of the chemistry faculty. With departmental approval, a problem that is chemical in nature may be conducted outside the chemistry department. The student should see Dr. J. A. Deyrup in 328A Chemistry Research Building to obtain approval for this option.

Entry into this honors program requires prior agreement between the student and his proposed research supervisor on the nature and duration of the research project.

The following exceptions to the general rule for course equivalencies may be of interest to transfer students: 1. All courses in the 900-999 series must be evaluated individually. 2. Sequences of courses are equivalent *as a whole*. The individual courses having the same number within the sequences are not necessarily equivalent. They must be evaluated on an individual basis.

General Chemistry: The following general chemistry sequences are offered: CHM 1020-1021, CHM 2040-2041C-2042C-2043C, CHM 2045C-2046C-2047C, CHM 2050C-2051C-2052C, CHM 2055C-2056C.

CHM 1020-1021 is a terminal course not appropriate for science and engineering students.

All 2000 level General Chemistry students must have a functional command of High School Algebra II, MAC 1132, or the equivalent.

An examination to aid in the placement of students into the proper general chemistry sequence will be administered prior to registration. This examination tests background in aspects of high school algebra and high school chemistry. Admission to a 2000 level general chemistry sequence is contingent on achieving a certain minimum score on this test. Students scoring in excess of this minimum are advised to take the sequence for which they have qualified.

CHM 2040-2041C-2042C-2043C is a four quarter sequence designed for students having some background in high school chemistry who have achieved lower scores in the placement examinations. Students with SAT scores between 900 and 1080 tend to fall in this category.

CHM 2045C-2046C-2047C is a three quarter sequence for students with adequate background in high school chemistry who have achieved higher scores in the placement examination. A minimum SAT score of 1080 total and 530 quantitative is generally necessary. This is the main stream General Chemistry sequence.

CHM 2050C-2051C-2052C is the general chemistry honors sequence for which students may enroll only through the invitational honors program, or with the special permission of the Department of Chemistry.

CHM 2055C-2056C is a two quarter general chemistry sequence open to students who also intend to enroll for advanced (3000 level) courses in chemistry at this university. By completing this sequence a student can complete the preprofessional requirements — medicine, dentistry, pharmacy and veterinary medicine — and other degree requirements more rapidly, leaving time for desired electives. This course covers most of the topics in the other general chemistry sequences but at a more rapid pace. Freshmen who have successfully completed this course have come from the group who score over 1200 on the SAT. This limitation does not apply to upper class students. Those who score well in the placement test will be encouraged to enroll for this sequence.

Prospective transfer students are strongly encouraged to take all of their General Chemistry work at a single institution. Most transfer students who have completed one semester or one or two quarters at another university or community college should register in the CHM 2040 sequence, rather than CHM 2045C or CHM 2055C sequence.

Questions relating to the General Chemistry program should be directed to a Chemistry undergraduate advisor who may be contacted in 200 LEI.

Registered students must attend all scheduled classes and laboratories during the first week of classes or notify their lecture instructor. Absentees will be assumed to be dropping and their place will be made available to students waiting to add the course.

Priority System: In instances where the demand for enrollment exceeds the capacity of the available facilities and chemistry staff, a priority system will be used. The system favors those students making satisfactory progress through a particular course sequence. First priority will be given to students attempting to register for a course for the first time and, for second and subsequent courses, to those who have completed the preceding course with a grade of C or better. Second priority will be given to students who have previously registered for the course and to those who have completed the preceding course with a grade of D. Whenever this system needs to be implemented students with first priority will be given first opportunity to add a course. Second priority students may add a course later in the drop/add period on a space available basis. In extreme cases it may be necessary to displace previously registered students with second priority.

Chemistry

CHM 1020 Chemistry and Society. W.
Credits: 4
The first half of the CHM 1020-1021 sequence. A terminal course for non-science students that presents chemistry and its relations to, and effects on, modern society. Topics in inorganic, organic, bio and environmental chemistry.

CHM 1021 Chemistry and Society. S.
Credits: 4; Prereq: CHM 1020 or equivalent.
The second half of CHM 1020-1021.

CHM 2040 Introductory General Chemistry. F, W, SS.
Credits: 4; Prereq: MAC 1132 or equivalent required.
The first quarter of the CHM 2040-2041C-2042C-2043C sequence. An introduction to the elementary principles of modern chemistry, including concepts of science, stoichiometry, atomic and molecular structure, and chemical bonding. Unless a student has taken three years of high school mathematics and achieved a score of 530 or higher in the mathematics portion of the SAT, it is required that MAC 1132 be taken prior to this course. This course is to be followed by CHM 2041C but this will be allowed only if a grade of "C" or better has been earned in CHM 2040.

CHM 2041C General Chemistry. W, S.
Credits: 4; Prereq: CHM 2040 or its equivalent with a grade of C or better.
The second quarter of the CHM 2040-2041C-2042C-2043C sequence. Principles of chemistry, the gaseous, liquid, and solid states, solutions and their colligative properties, and chemical kinetics. Related laboratory experiments.

CHM 2042C General Chemistry and Qualitative Analysis. F, S, SS.
Credits: 4; Prereq: CHM 2041C.
Third quarter of the CHM 2040-2041C-2042C-2043C sequence. Principles of chemical equilibrium, acids and bases, thermochemistry, chemistry of the pre-transition metals. Laboratory experiments in chemical equilibrium and qualitative analysis of cations and anions.

CHM 2043C General Chemistry and Qualitative Analysis. F, W, SS.
Credits: 4; Prereq: CHM 2042C at UF.
Final quarter of the CHM 2040-2041C-2042C-2043C sequence. Chemistry of transition and post-transition metals, complex ions, non-metals, oxidation-reduction reactions, introduction to organic chemistry. Laboratory experiments involving the separation and detection of ions in aqueous solution.

CHM 2045C General Chemistry, F, W.
Credits: 4; Prereq: Required minimum score on General Chemistry placement test.

Students who have never enrolled for CHM 2040 or its equivalent or who have had no chemistry for a number of years should not enroll in this course without consulting the General Chemistry Office.

First quarter of the CHM 2045C-2046C-2047C sequence: Principles of chemistry, atomic and molecular structure, chemical bonding, stoichiometry, the properties and structure of gases, liquids and solids. Related laboratory experiments.

CHM 2046C General Chemistry and Qualitative Analysis. W, S.
Credits: 4; Prereq: CHM 2045C at UF.
Second quarter of the CHM 2045C-2046C-2047C sequence. Continuation of chemical principles, solutions and their colligative properties, chemical kinetics, chemical equilibrium and electrochemistry; the descriptive chemistry of some

elements. Laboratory experiments in chemical equilibrium and qualitative analysis of some cations and anions.

CHM 2047C General Chemistry and Qualitative Analysis. S, SS.
Credits: 4; Prereq. CHM 2046C at UF.
Third quarter of the CHM 2045C-2046C-2047C sequence. Systematic chemistry of the metals and non-metals, the chemistry of complex ions, elements of organic chemistry. Qualitative analysis of selected cations and anions.

CHM 2050C General Chemistry Honors. F.
Credits: 4
First course of the sequence CHM 2050C-2051C-2052C which has the same goals as the sequence CHM 2045C-2046C-2047C, but is open mainly to students with a very good background, who desire a chemistry course with more depth. Enrollment in this course is achieved only through the invitational honors program or with the permission of the department of chemistry. This course is offered in the Fall quarter, only.

CHM 2051C General Chemistry Honors. W.
Credits: 4; Prereq: CHM 2050C or special permission of the department of chemistry.
Second quarter of the CHM 2050C-2051C-2052C sequence.

CHM 2052C General Chemistry Honors. S.
Credits: 4; Prereq: CHM 2051C.
Third quarter of the sequence CHM 2050C-2051C-2052C.

CHM 2055C Chemical Principles. F.
Credits: 5
This sequence allows the well motivated student to complete general, analytical and organic chemistry in 5 quarters. It is recommended for students majoring in chemistry, certain chemistry oriented areas of engineering, zoology, pharmacy and premedical, predental, preveterinary medical students. The topical material in the CHM 2055C-2056C sequence is similar to that covered in the other general chemistry sequences.

CHM 2056C Principles of Chemistry and Qualitative Analysis. W.
Credits: 5; Prereq: CHM 2055C (No exceptions).
The second quarter of the sequence CHM 2055C-2056C.

CHM 3120 Analytical Chemistry I. F, W, S, SS.
Credits: 4; Prereq: CHM 2043C or 2047C or 2052C or 2056C.
Principles involved in quantitative analysis. Topics include: acid-base equilibria and titrations; precipitation and complex formation; oxidation-reduction; statistical treatment of data; sampling methods.

CHM 3120L Analytical Chemistry Laboratory I. F, W, S, SS.
Credits: 2; Prereq. or Coreq: CHM 3120 or equivalent.
Laboratory experiments designed to accompany CHM 3120.

CHM 3200 Organic Chemistry. F, SS.
Credits: 4; Prereq: CHM 2043C, 2047C, 2052C, or 2056C.
A brief elementary course embracing the more important aliphatic and aromatic compounds. (This lecture course may not be taken without the corresponding laboratory course without permission of the Chairman of the Chemistry Department, unless the student is majoring in physics or chemical engineering.)

CHM 3200L Organic Chemistry Laboratory. F, SS.
Credits: 2; Coreq: CHM 3200.
Organic laboratory experiments to accompany CHM 3200.

CHM 3210 Organic Chemistry. F, W, S, SS.
Credits: 4; Prereq: CHM 2043C, 2047C, 2052C or 2056C, or equivalent.
The first half of the CHM 3210-3211 sequence. A study of the structures, syntheses and reactions of organic compounds.

CHM 3210L Organic Chemistry Laboratory. F, W, S, SS.
Credits; 1; Prereq: CHM 3210.
The first half of the CHM 3210L-3211L laboratory sequence.

CHM 3211 Organic Chemistry. F, W, S, SS.
Credits: 3; Prereq: CHM 3210.
The second half of the CHM 3210-3211 sequence.

CHM 3211L Organic Chemistry Laboratory. F, W, S, SS.
Credits: 2; Prereq: CHM 3210L.
The second half of the CHM 3210L-3211L laboratory sequence.

CHM 3215 Organic Chemistry — Honors. F, W.
Credits: 4; Coreq: CHM 3215L. Prereq: three quarters of college chemistry or its equivalent and consent of instructor.
This course will cover the subject material of CHM 3210 in greater depth.

CHM 3215L Organic Chemistry Laboratory—Honors. F, W.
Credits: 1; Coreq: CHM 3215.
Basic techniques and instrumentation of the organic chemistry research laboratory.

CHM 3216 Organic Chemistry — Honors. W, S.
Credits: 3; Prereq: CHM 3215. Coreq: CHM 3216L.
This course will cover the subject material of CHM 3211 in greater depth.

CHM 3216L Organic Chemistry Laboratory—Honors. W, S.
Credits: 2; Coreq: CHM 3216.
Research experiments in organic chemistry.

CHM 3219 Organic Chemistry. SS.
Credits: 9; Prereq: CHM 2043C, 2047C, 2052C, 2056C, or equivalent. Complete 1 year college chemistry course including Qualitative Analysis; Coreq: CHM 3219L.
A study of the structures; reactions and synthesis of organic compounds. CHM 3219 with CHM 3219L constitute a complete organic chemistry sequence and as such, are suitable for students majoring in Chemistry, certain chemistry oriented areas of Engineering, Zoology, Pharmacy, and premedical, predental, preveterinary medical students. The topical material covered in CHM 3219 is essentially identical to that covered in CHM 3210 and 3211.

CHM 3219L Organic Chemistry Laboratory. SS.
Credits: 3; Coreq: CHM 3219
Laboratory experiments designed to accompany CHM 3219.

CHM 3400 Physical Chemistry. F, W, S.
Credits: 4; Prereq: CHM 3120, MAC 3312. Coreq: CHM 3210 or 3200.
The first half of the course CHM 3400-3401. Properties of solutions, chemical equilibrium, pH, the colloidal state; particular emphasis on biochemical applications. Designed primarily for students of medicine, pharmacy, biology and related fields.

CHM 3401 Physical Chemistry. W, S, SS.
Credits: 4; Prereq: CHM 3400.
The second half of the course CHM 3400-3401.

CHM 3401L Physical Chemistry Laboratory. W, S, SS.
Credits: 2; Coreq: CHM 3401.
A series of laboratory experiments designed to accompany CHM 3401.

CHM 3610 Inorganic Chemistry. S.
Credits: 3; Prereq: CHM 3211 and CHM 3211L or equivalent.
Basic theoretical concepts involved in inorganic chemistry. Bonding, structure and reactivity, reaction mechanisms. Examples of industrial reactions.

CHM 4060 Chemistry Literature. F.
Credits: 1; Prereq: 3 years of chemistry.
A reading knowledge of French and German is desirable. The present sources of published chemical information.

CHM 4131 Analytical Chemistry II. F, W, S.
Credits: 3; Prereq: CHM 3120L, MAC 3312 and PHY 2051 or equivalent.
Continuation of CHM 3120. Electrochemical, chromatographic and spectroscopic methods of analysis.

CHM 4131L Analytical Chemistry II Laboratory. F, W, S.
Credits: 2; Coreq: CHM 4131.
Laboratory experiments designed to accompany CHM 4131.

CHM 4150L Advanced Analytical Laboratory. S.
Credits: 3; Prereq: CHM 4131 and CHM 4131L.
Experiments in modern instrumental analysis.

CHM 4230 Organic Chemistry. S.
Credits: 3; Prereq: CHM 3211.
Characterization and structure proof of organic compounds by spectral methods, including IR, UV, NMR and mass spectrometry.

CHM 4230L Organic Chemistry Laboratory. S.
Credits: 2; Prereq: CHM 3211L. Coreq: CHM 4230.
The qualitative identification of organic compounds through the combined use of spectroscopic and chemical methods.

CHM 4380 Current Topics in Organic Chemistry. F.
Credits: 3; Prereq: CHM 3211.
Modern synthetic reactions, molecular rearrangements, elements of physicalorganic chemistry, heterocyclic compounds, organic chemistry of the second row elements, natural products, pericyclic reactions, free radical chemistry, and photochemistry.

CHM 4410 Physical Chemistry. F, W, S.
Credits: 3; Prereq: PHY 2042. Coreq: MAP 3302.
Introduction to quantum theory, atomic and molecular structure, chemical bonding.

CHM 4411 Physical Chemistry. F, W, S.
Credits: 4; Prereq: PHY 2042. Coreq: MAP 3302.
Chemical thermodynamics, solutions, homogeneous and heterogeneous equilibria, electrochemistry.

Note CHM 4410 and CHM 4411 may be completed in either order, although it is recommended that CHM 4411 be taken first.

CHM 4411L Physical Chemistry Laboratory. F, W, S.
Credits: 3; Prereq: either CHM 4410 or 4411.
A series of laboratory experiments designed to accompany CHM 4410-CHM 4411.

CHM 4412 Physical Chemistry. S, SS.
Credits: 3; Prereq: CHM 4410 and 4411.
Chemical statistics, kinetic theory, chemical kinetics.

CHM 4412L Physical Chemistry Laboratory. S, SS.
Credits: 2; Prereq: CHM 4411L. Coreq: CHM 4412.
A series of laboratory experiments designed to accompany CHM 4412.

CHM 4740L Integrated Laboratory. F, W, S, SS.
Credits: 3; Prereq: CHM 4131L or equivalent.
A course designed to present a unified approach to advanced organic, physical-chemical, and instrumental analytical laboratory techniques. Laboratory program may be tailored to the student's requirements. May be repeated for additional credit.

CHM 4905 Individual Problems. F, W, S, SS.
Credits: 2 to 5; Prereq: permission of the faculty member supervising the work.
May be repeated for additional credit. Double registration permitted. An assigned reading program or the development of an assigned experimental problem.

Descriptions

CIVIL ENGINEERING

CHM 4910 Senior Research. F, W, S, SS.
Credits: 2 to 5; Prereq. or Coreq: CHM 4060. Senior standing and consent of instructor.
Laboratory or literature investigations of chemical problems of current interest. May be repeated for additional credit.

GRADUATE COURSES
Chemistry

CHM 5157 Analytical Processes.
Credits: 4; Prereq: CHM 3120C and 4411.

CHM 5235 Organic Spectroscopy. F.
Credits: 3; Prereq: CHM 3211.

CHM 5272 The Organic Chemistry of Polymers. W.
Credits: 3; Prereq: CHM 3210, 3200 or equivalent.

CHM 5300 Chemistry of Biological Molecules. S.
Credits: 4; Prereq: Organic Chemistry CHM 3211 or 3216 and Physical Chemistry CHM 4412 or CHM 3401 or consent of instructor.

CHM 5413L Advanced Physical Chemistry Laboratory. SS.
Credits: 3; Prereq: CHM 4412L.

CHM 5511 The Physics and Physical Chemistry of Polymers. S.
Credits: 3; Prereq: CHM 4411 or equivalent.

CHM 5511L Polymer Chemistry Laboratory. S.
Credits: 1; Prereq. or Coreq: CHM 5511.

CHM 5514 Chemical Computation. SS.
Credits: 3; Prereq: CHM 4412 and a knowledge of FORTRAN Programming.

CHM 5626 Modern Inorganic Chemistry. F.
Credits: 3; Prereq: CHM 3610, CHM 4410 or equivalent.

CHM 5631L Advanced Inorganic Synthesis. SS.
Credits: 3; Prereq: CHM 3610 or equivalent.

CHM 6140 Advanced Research Techniques in Chemistry.
Credits: 2 to 5

CHM 6153 Electrochemical Processes.
Credits: 1 to 5

CHM 6154 Chemical Separations.
Credits: 3

CHM 6155 Atomic and Molecular Spectroscopy.
Credits: 3

CHM 6158L Advanced Instrumental Analysis Laboratory.
Credits: 4

CHM 6180 Special Topics in Analytical Chemistry.
Credits: 2. Maximum of 12 credits.

CHM 6190 Analytical Chemistry Seminar.
Credits: 1

CHM 6225 Advanced Organic Chemistry.
Credits: 3

CHM 6226 Advanced Organic Chemistry.
Credits: 3

CHM 6227 Advanced Organic Chemistry.
Credits: 3

CHM 6242 Free Radical Reactions.
Credits: 2

CHM 6251 Organometallic Compounds.
Credits: 3

CHM 6260 Physical-Organic Chemistry.
Credits: 2

††Grading is on S-U basis only.

CHM 6270 The Chemistry of Heterocyclic Compounds.
Credits: 2

CHM 6271 Chemistry of High Polymers.
Credits: 2

CHM 6271L High Polymer Chemistry Laboratory.
Credits: 2

CHM 6381 Special Topics in Organic Chemistry.
Credits: 2

CHM 6390 Organic Chemistry Seminar.
Credits: 1

CHM 6430 Chemical Thermodynamics.
Credits: 3

CHM 6440 Advanced Chemical Kinetics.
Credits: 3

CHM 6449 Photochemistry.
Credits: 3

CHM 6460 Kinetic Theory.
Credits: 3

CHM 6461 Statistical Thermodynamics.
Credits: 3

CHM 6470 Chemical Bonding and Spectra. 1.
Credits: 4

CHM 6471 Chemical Bonding and Spectra. 2.
Credits: 2 to 4

CHM 6480 Elements of Quantum Chemistry.
Credits: 3

CHM 6481 Quantum Theory of Matter 1.
Credits: 3

CHM 6482 Quantum Theory of Matter 2.
Credits: 3

CHM 6483 Quantum Theory of Matter 3.
Credits: 3

CHM 6490 Introduction to the Theory of Molecular Spectroscopy.
Credits: 3

CHM 6510 Physical Chemistry of Surfaces.
Credits: 3

CHM 6512 The Physical Chemistry of Polymers.
Credits: 3

CHM 6513 Colloids.
Credits: 2

CHM 6515 Radiation Chemistry.
Credits: 2

CHM 6520 Chemical Physics.
Credits: 3

CHM 6580 Special Topics in Physical Chemistry.
Credits: 1 to 3. Maximum of 15 credits.

CHM 6590 Physical Chemistry Seminar.
Credits: 1

CHM 6620 Advanced Inorganic Chemistry.
Credits: 3

CHM 6622C Inorganic Preparations.
Credits: 5

CHM 6623 Chemistry of the Metals.
Credits: 3

CHM 6624 Chemistry of the Nonmetals.
Credits: 3

CHM 6680 Special Topics in Inorganic Chemistry.
Credits: 1 to 3. Maximum of 15 credits.

CHM 6690 Inorganic Chemistry Seminar.
Credits: 1

CHM 6710 Applied Molecular Spectroscopy.
Credits: 4

CHM 6720 Chemical Dynamics.
Credits: 4

CHM 6730 Chemical Transformations.
Credits: 4

CHM 6905 Individual Problems, Advanced Graduate. F, W, S, SS.
Credits: 3 to 5; max. 15. Prerequisite: Permission of faculty member supervising the work.

CHM 6910 Supervised Research.
Credits: 1 to 5††

CHM 6935 Chemistry Colloquium.
Credits: 1††; Maximum of 7.

CHM 6940 Supervised Teaching.
Credits: 1 to 5††

CHM 6971 Master's Research.
Credits: 1 to 15††

CHM 7485 Special Topics in Theory of Atomic and Molecular Structure.
Credits: 3

CHM 7498 Theory of Atomic and Molecular Structure.
Credits: 3

CHM 7980 Doctoral Research.
Credits: 1 to 15††

Chemistry — Specialized
GRADUATE COURSES

CHS 5110 Radiochemistry. S.
Credits: 3; Prereq: CHM 3401 or 4412, or consent of instructor.

CHS 5110L Radiochemistry Laboratory. S.
Credits: 2; Prereq: CHM 3120 and 3401 or 4412, or consent of instructor.

CHS 6120 Nuclear Chemistry.
Credits: 3

CIVIL ENGINEERING
College of Engineering

INSTRUCTIONAL STAFF 1979-80

Schaub, J.H., Chairman; Bryan, P.F.; Christensen, B.A.; Collier, C.A.; Coons, W.W.; Courage, K.G.; Davidson, J.L.; Furman, T.deS.; Gibson, D.W.; Hays, C.O.; Hedgecock, C.R.; Koussis, A.; Long, G.; Lybas, J.M.; Rumble, J.D.; Ruth, B.E.; Self, M.W.; Spangler, B.D.; Townsend, F.C.; Wallace, C.W.; Wattleworth, J.A.; Whitehead, W.J.; Zimpfer, W.H.

ADJUNCT AND AFFILIATE STAFF

Brooks, H.K.; Deere, D.U.; Eades, J.L.; Huber, W.C.; Schmertmann, J.H.

Civil Engineering
Structures

CES 3103 Stress Analysis. W, S, SS.
Credits: 4; Prereq: CES 3123.
Deflection analysis of beams, frames and trusses by geometric and static methods. Analysis of statically indeterminate structures by consistent deformations, elastic center, and stiffness method.

CES 3123 Mechanics of Engineering Structures. F, W, S, SS.
Credits: 4; Coreq: EGM 3520.
Stress and strain analysis of statically determinate structures. Influence lines and criteria for maximum moments, shears, and reactions.

CES 4034 Structural Estimating. W, SS.
Credits: 3; Prereq: Junior or Senior class standing.
Cost estimating for structures. Economic com-

parisons of competitive structural systems. Construction methods and scheduling as they affect cost estimates.

CES 4607 Analysis and Design in Steel. F, S.
Credits: 4; Prereq: ECI 3403, CES 3103.
Basic theory of design in structural steel. Design of members subjected to tension, compression and flexure. Design of connections.

CES 4704 Design of Reinforced Concrete. F.
Credits: 3; Prereq: CES 4705.
Continuation of CES 4705. Ultimate strength analysis and design involving torsion members of irregular section, and slabs, walls and footings. Building design.

CES 4705 Analysis and Design in Reinforced Concrete. F, W, S, SS.
Credits: 4; Prereq: CES 3103.
Ultimate strength analysis and design of reinforced concrete members. Flexural working stress design. Analysis of frames by moment distribution. Influences lines. Introduction to frame design.

GRADUATE COURSES

CES 5305 Design of Structural Systems.
Credits: 3

CES 5325 Design of Highway Bridges.
Credits: 3

CES 5715 Design in Prestressed Concrete.
Credits: 3

CES 5726 Design of Concrete Systems.
Credits: 3

CES 5801 Design in Steel and Timber.
Credits: 3

CES 6106 Advanced Structural Analysis.
Credits: 3 to 6

CES 6108 Analysis of Statically Indeterminate Structures.
Credits: 3 or 6

CES 6136L Advanced Structural Laboratory.
Credits: 3

CES 6146 Matrix Methods in Structural Analysis.
Credits: 3 to 6

CES 6207 Topics in Structural Dynamics.
Credits: 3 to 6

CES 6516 Design of Framed Structures.
Credits: 3 to 6

CES 6526 Nonlinear Structural Analysis and Design.
Credits: 3 to 9

CES 6551 Design of Folded Plates and Shells.
Credits: 3 to 6

CES 6616 Advanced Metal Structures.
Credits: 3

CES 6706 Advanced Reinforced Concrete.
Credits: 3 to 6

CES 6716 Advanced Prestressed Concrete Design.
Credits: 3

Engineering: Civil

ECI 2122 Civil Engineering Concepts. F, W, S.
Credits: 2; Prereq: MAC 3311.
Introduction to the basic problems, methodology and nomenclature of the subdisciplines of civil engineering.

ECI 3213 Hydraulics. F, W, S, SS.
Credits: 4; Prereq: MAP 3302. Coreq: EGM 3400.
Fluid properties and flow forms. Hydrostatic forces and stability of floating bodies. Basic flow equations with applications. Similitude, models and analogs. Pipe flow. Waterhammer. Pumps and turbines. Hydrometry.

ECI 3403 Civil Engineering Materials. F, W, S, SS.
Credits: 3; Prereq: EGM 3520 & EMA 3010.
A study of the principal materials used for engineering purposes with special attention to their mechanical properties and the importance of these properties to the engineer.

ECI 4041 Computer Methods in Civil Engineering. F, W, S, SS.
Credits: 4; Prereq: Senior Status and COP 3212.
Introduction to electronic digital computer programming, including various coding systems. Practice in machine solutions of civil engineering problems with introduction to matrix algebra techniques.

ECI 4131 Construction Contracts and Specifications. W.
Credits: 3; Prereq: Senior standing or permission of instructor.
Construction contracts, specifications and plans, principles of formulation and interpretation. Construction labor regulations; practice and trends.

ECI 4137 Civil Engineering Project Cost Analysis. F, W, S.
Credits: 3; Prereq: Junior or Senior class standing.
Civil engineering project finances. Theory and practice of cost analysis systems for Civil Engineering construction. Highway and heavy construction feasibility studies. Time value applications.

ECI 4145 Construction Methods and Management. F, W, S.
Credits: 4; Prereq: Junior or Senior class standing.
Theory and practice of construction operations, equipment utilization and construction methods. Analysis of costs. Optimizing crew and equipment. Heavy equipment costs.

ECI 4151 Practical Work in Civil Engineering. F, W, S, SS.
Credits: 1 to 5. Prereq: 4EG Classification.
One term industrial employment, including extra work according to a pre-approved outline. Practical engineering work under industrial supervision, as set forth in the College of Engineering Regulations.

ECI 4152 Creative Engineering. SS.
Credits: 3; Prereq: Senior standing in civil engineering.
The methodology of developing creative solutions to complex problems is explored. New and unusual engineering problems are addressed. Feasibility reports are prepared and presented.

ECI 4214 Hydraulics and Water Resources Engineering. F, W, S.
Credits: 4; Prereq: ECI 3213. Continuation of ECI 3213.
Open channel flow, hydraulic jump and backwater curves. Introduction to groundwater hydraulics, sedimentation, transient flow and planning and design of water resources systems.

ECI 4305 Soil Mechanics and Foundations. W, SS.
Credits: 4; Prereq: ECI 4314.
Subsurface exploration, settlement analysis, shearing resistance, earth pressure and an introduction to foundation design.

ECI 4314 Soil Mechanics. F, S.
Credits: 3; Prereq: GLY 2026 and ECI 3403.
Composition, physical and chemical properties of soil, compaction, flow of water through soil, distribution of stress within soil and consolidation.

ECI 4324 Foundation Design I. F, S.
Credits: 3; Prereq: ECI 4305 and CES 4705.
Foundation investigations, analysis and design of footings, pile and pile foundations, walls and sheet piling.

ECI 4905 Special Problems in Civil Engineering. F, W, S, SS.
Credits: 1 to 6; Maximum of 12 credits. Prereq: Recommendation of Department Chairman.
Selected problems or projects in the student's major field of engineering study.

ECI 4949 Co-op Work Experience. F, W, S, SS.
Credits: 1††; Prereq: EG Classification.

GRADUATE COURSES

ECI 5045 Numerical and Computer Methods in Civil Engineering.
Credits: 3

ECI 5124 Civil Engineering Systems.
Credits: 4

ECI 5125 Construction Equipment and Procedures.
Credits: 3

ECI 5147 Construction Planning and Scheduling.
Credits: 3

ECI 5157 Civil Engineering Project Feasibility Analysis.
Credits: 3

ECI 5166 Legal Aspects of Civil Engineering.
Credits: 3

ECI 5186 Public Works Planning.
Credits: 3

ECI 5225 Problems in Hydraulics.
Credits: 3

ECI 5235 Open-Channel Hydraulics I.
Credits: 3

ECI 5265 Hydraulic Motors and Pumps.
Credits: 3

ECI 5317 Stress-Deformation Analysis of Soil Media.
Credits: 3

ECI 5325 Foundation Design II.
Credits: 3

ECI 5335 Soil Exploration for Engineering Design.
Credits: 3

ECI 5625 Geohydrology.
Credits: 3

ECI 6153 Civil Engineering Practice.
Credits: 3

ECI 6154 Civil Engineering Operations.
Credits: 3

ECI 6223 Computational Hydraulics I.
Credits: 3

ECI 6224 Computational Hydraulics II.
Credits: 3 to 6

ECI 6227 Hydraulic Models and Analogs.
Credits: 3

ECI 6228 Hydraulic Measurements in Laboratory and Field.
Credits: 3

ECI 6233 River Mechanics.
Credits: 3

ECI 6234 Hydraulics of Stratified Flow.
Credits: 3

ECI 6236 Open-Channel Hydraulics 2.
Credits: 3

ECI 6237 Sediment Transport.
Credits: 3

ECI 6238 Hydraulic Transients.
Credits: 3

††Grading is on S-U basis only.

Descriptions

CIVIL ENGINEERING

ECI 6316 Advanced Soil Mechanics.
Credits: 3 to 9

ECI 6326 Advanced Foundations.
Credits: 3 to 6

ECI 6346 Soil Dynamics.
Credits: 3 to 6

ECI 6356 Theory and Practice of Soil Compaction.
Credits: 3

ECI 6416 Properties, Design and Control of Concrete.
Credits: 4

ECI 6426 Bituminous Materials.
Credits: 4

ECI 6436 Structure and Engineering Properties of Soils.
Credits: 3 to 6

ECI 6575 Air Photo Interpretation: Engineering Applications.
Credits: 3

ECI 6576 Air Photo Interpretation: Terrain Analysis.
Credits: 4

ECI 6616 Groundwater Hydraulics.
Credits: 3

ECI 6905 Special Problems in Civil Engineering.
Credits: 1 to 9

ECI 6910 Supervised Research.
Credits: 1 to 5††

ECI 6936 Graduate Civil Engineering Seminar.
Credits: 1; max. of 3.

ECI 6940 Supervised Teaching.
Credits: 1 to 5††

ECI 6971 Master's Research.
Credits: 1 to 15††

ECI 6974 Master of Engineering or Engineer Degree Report.
Credits: 1 to 9

ECI 7980 Doctoral Research.
Credits: 1 to 15††

Engineering: Environmental

ENV 4404 Water Supply & Wastewater Removal. F, S.
Credits: 4
Source of supply quantity and quality requirements, collection, transmission and distribution of water. Collection, transportation and disposal of sewage and stormwater. Design of collection and distribution systems.

ENV 4514 Treatment of Water and Wastewater. W, SS.
Credits: 4
The chemical, physical and biological treatment of water and wastewater.

ENV 4621 Water Resources Engineering. SS.
Credits: 3; Prereq: ECI 4214 or consent of instructor.
Introduction to the hydrological cycle. River engineering and design of artificial waterways. Navigation locks and introduction to dam and spillway design. Hydroelectric power generation. Pump and turbine selection.

GRADUATE COURSE

ENV 5625 Advanced Water Resources Engineering.
Credits: 3

††Grading is on S-U basis only.

Engineering: General

EGN 4036 Engineering Professionalism and Ethics. W.
Credits: 3; Prereq: senior standing.
A discussion of professionalism and ethics in the practice of engineering. The development of the concepts of professionalism and ethics and the traditional practice of these concepts are considered in relation to changing situations in practice in a variety of employment conditions. Case histories will be discussed.

EGN 4822 Engineering and Public Works. W.
Credits: 3
For non-engineering students — A broad review of the nature and engineering aspects of the public services and facilities. Each public works function identified as to purpose and outlined as an engineering project. Problems in project development and interdisciplinary collaboration.

History: General

HIS 4470 History of Technology I.
Credits: 4
This course examines the development of technology and engineering from antiquity to the Industrial Revolution. Emphasis will be on the relationship of the development of technology to the growth of western civilization.

HIS 4471 History of Technology II.
Credits: 4
This course examines the development of technology and engineering from the beginning of the Industrial Revolution to the early twentieth century. Emphasis will be on the relationship of the development of technology to the cultural growth of western civilization.

HIS 4472 History of Technology III.
Credits: 4
This course investigates the development of technology and engineering in North America from about 1700 to the early twentieth century. It is concerned primarily with the influence of the growth of technology on the developing pattern of life in the United States.

Surveying

SUR 3101C Engineering Measurements. F, W, S.
Credits: 2; Coreq: MAC 3311.
Theory of Measurements. Sources of errors. Reliability, accuracy, precision, and probability of errors. Application to civil engineering.

SUR 3202C Construction Surveying. W.
Credits: 2; Prereq: ECI 3101.
Location and layout of highways, linear and broad area projects. Curves, spirals, turnouts, superelevation, slope staking.

SUR 3301C Topography and Mapping. S.
Credits: 2; Prereq: SUR 3101.
Surveying for mapping, field surveys for topographic maps, manuscript compilation, map reproduction, map projections.

SUR 3331C Photogrammetry 1. F, S.
Credits: 3
Photo interpretation and basic measurements, geometry of vertical photographs, precise photo measurements, stereo plotter operation, air photo interpretation of basic cultural and natural features.

SUR 3403C Land Surveying Principles. W.
Credits: 4; Prereq: REE 3043.
Land boundaries, corners, areas; writing land descriptions, identification of land parcels; legal principles of boundary location, the government land survey system.

SUR 3430 Land Surveying Practice. S.
Credits: 3; Prereq: SUR 3101 & EGN 1123.
A study of land survey practice; the lot survey, the sectional survey, the water boundary survey; office and business practices; professional standing.

SUR 3462 Subdivisions. W.
Credits: 3; Prereq: SUR 3403 & EVS 4215.
Subdivision boundary and lot calculations, manual and computer, plat drafting; legal requirements; planning for lot grades, lot size and lot layout.

SUR 3501 Geodetic Surveying. W.
Credits: 3; Prereq: SUR 3101, MAC 3224; Coreq: AST 3652.
Precise horizontal surveys of large extent; latitudes, longitudes, and azimuth; state plane coordinate systems; celestial observations for latitude and azimuth; geodetic computation; electronic measuring devices.

SUR 3520C Control Surveying. S.
Credits: 4; Prereq: SUR 3101, COP 3212, STA 3032.
Horizontal and vertical control surveys, error theory, precise traverse, triangulation, trilateration, adjustment theory, least squares adjustments.

SUR 3640C Land Surveying Computations. F.
Credits: 3; Prereq: SUR 3101.
The principles of geometry applied to land surveying computations; manual and computer techniques; coordinates, areas, volumes, intersections, circular curves, compound and reverse curves; higher geometry and spherical trigonometry.

SUR 3660C Professional Drafting for Surveyors. F, W, S.
Credits: 2; Prereq: EGN 1111C.
A study of the techniques and drawings used in land surveys; supervised by practicing professional surveyors.

SUR 4201C Field Measurements. F, W, S.
Credits: 3; Prereq: SUR 3101.
Familiarization with measuring instruments of civil engineering. Comparative evaluations. Applications to typical problems.

SUR 4350C Photogrammetry 2. F.
Credits: 2; Prereq: SUR 3520C and SUR 3331C.
Advanced stereo plotter operation, geometry of titled photographs, aerotriangulation by strip formation and adjustment.

SUR 4912 Senior Project. F, W, S.
Credits: 3; Prereq: Senior Standing.
Laboratory, equipment, or literature investigations of surveying problems and concepts of current interest resulting in a written work.

SUR 4949 Co-op Work Experience. F, W, S, SS.
Credits: 1††; Prereq: EG Classification.

Transportation & Traffic Engineering

TTE 4007 Traffic and Transportation Engineering. F.
Credits: 4; Prereq: None.
Transportation characteristics and planning Traffic characteristics, traffic studies, traffic control. Transportation systems.

TTE 4104 Highway Engineering. F, S.
Credits: 3; Prereq: ECI 3403 and ECI 4515.
Highway engineering practice, including organization, highway location, design, drainage, materials and construction.

GRADUATE COURSES

TTE 5006 Transportation Systems Planning.
Credits: 4

TTE 5105 Highway Design.
Credits: 3

TTE 5215 Traffic Engineering Characteristics.
Credits: 4

TTE 5257 Traffic Control Systems.
Credits: 4

TTE 5701 Geometric Design of Transportation Facilities.
Credits: 4

TTE 6106 Advanced Highway Engineering.
Credits: 3

TTE 6107 Highway Safety Analysis.
Credits: 3

TTE 6256 Traffic Engineering Operations and Analysis.
Credits: 4

TTE 6267 Traffic Flow Theory.
Credits: 4

TTE 6306 Transportation Systems Technology.
Credits: 4

TTE 6307 Freeway Design and Operations.
Credits: 4

TTE 6516 Transportation Planning Decisions.
Credits: 3

TTE 6526 Airport Planning and Operations.
Credits: 3

TTE 6606 Urban Transportation Models.
Credits: 3

CLASSICS

INSTRUCTIONAL STAFF 1979-80

Schmeling, G.L., Chairman; Dickison, S.; Hartigan, K.; Miller, D.G.; Sussman, L.

An undergraduate major in Classics is interdisciplinary in nature with an emphasis on Greek, Latin, or a combination. An undergraduate is required to take 12 quarter hours of Greek or Latin above GRE 1122 or LAT 1122, or complete the three quarter beginning sequence in both GRE and LAT. In addition there is a requirement of 6 courses of the 2000 level or above (from any department) which deal with the ancient world, plus CLA 4935. The department also offers a certificate program. Students are urged to consult an advisor when considering a major.

To graduate with departmental honors a student must attain a 3.5 average in his major (excluding courses below the 3000-level), and complete in his Senior year some special project approved as honors work.

Classical and Ancient Studies
(All courses indicated CLA or CLT are taught in English)

CLA 1100 The Glory that was Greece. W.
Credits: 4; Prereq: None.
A broad cultural view of the classical Greek world. Greek sources read in translation.

CLA 1120 The Grandeur that was Rome. S.
Credits: 4; Prereq: None.
Provides a multi-faceted introduction to the culture of Rome. Primary source material read in translation.

CLA 2700 Classical Archaeology. W.
Credits: 4; Prereq: None.
Illustrated lectures on archaeology, its process of discovery and methods. History of major archaeological exploration in Mediterranean lands compared with extant literary information.

CLA 2930 Special Topics in Classical Civilization. F, W, S.
Credits: 4; Prereq: None.
An examination of various aspects of Greek and Roman culture based on the ancient sources, literary and archaeological. With a change of topic, may be repeated for addiional credit.

CLA 3501 Women in Classical Antiquity. W.
Credits: 4; Prereq: None.
The status of women in antiquity will be examined in light of modern thinking on the subject of women's roles in society.

CLA 3791 The Ancient City. F.
Credits: 4; Prereq: None.
An examination of the concepts and physical characteristics of Greek and Roman cities.

CLA 4905 Individual Study. F, W, S.
Credits: 2 to 5; Prereq: Consent of Instructor.
Reading, conference, and reports. All work done in translation. May be repeated for additional credit with change of content.

CLA 4935 Classical Studies Program Seminar. F, W, S.
Credits: 4; Prereq: Completion of Classical Studies Program.

Classical Literature in Translation

CLT 2230 Ancient Novel. F.
Credits: 4; Prereq: None.
The development and influence of the ancient novel. All sources are read in translation and compared with saints' lives, medieval romances, and the earliest English novels.

CLT 2370 Myths of the Greeks and Romans. F.
Credits: 4; Prereq: None.
The development, importance, and influence of Greco-Roman Mythology. The main Greek and Latin literary sources read in translation.

CLT 2371 Religions of the Graeco-Roman World. S.
Credits: 4; Prereq: None.
The development, importance, and influence of Greek and Roman religion and cult practice. The main literary and epigraphical sources read in translation.

CLT 3291 Greek Drama. S.
Credits: 4; Prereq: None.
The Classical Greek theatre. Archaeological remains of important theatres. Selected plays of Aeschylus, Sophocles, Euripides, Aristophanes and Menander read in translation.

CLT 3340 Greek and Roman Epic. W.
Credits: 4; Prereq: None.
The origin, development, and importance of ancient epic. Emphasis on Homer and Vergil, read in translation.

CLT 4905 Individual Study. F, W, S.
Credits: 2 to 5; Prereq: Consent of Instructor.
Reading, conference and reports. With change of content, may be elected for additional credits. All work done in translation.

Greek Language

GRE 1120 Beginning Greek 1. F.
Credits: 5; Prereq: None.

GRE 1121 Beginning Greek 2. W.
Credits: 5; Prereq: GRE 1120, grade of C or better, or S, or equivalent work.

GRE 1122 Beginning Greek 3. S.
Credits: 5; Prereq: GRE 1121, grade of C or better, or S, or equivalent work.

Greek Literature (Writings)

GRW 2250 New Testament Greek. S.
Credits: 4; Prereq: some knowledge of Greek and consent of the instructor.
Review of grammar and forms. Readings from several books of the New Testament.

GRW 3100 Survey of Greek Literature 1. F.
Credits: 4; Prereq: GRE 1122 or equivalent.
Study of representative texts of the fifth century B.C.

GRW 3101 Survey of Greek Literature 2. W.
Credits: 4; Prereq: GRE 1122 or equivalent.
Study of representative texts of the fifth century B.C., frequently drama.

GRW 3102 Survey of Greek Literature 3. S.
Credits: 4; Prereq: GRE 1122 or equivalent.
Study of representative texts from various periods of Greek literary history.

GRW 4905 Individual Work. F, W, S.
Credits: 2 to 5; Prereq: GRE 1122 or equivalent.
Reading, conference and reports. With change of content, may be elected for additional credit.

Health Science

HSC 2531 Health and Life Sciences Terminology.
Credits: 4; Prereq: None.
An intensive study of Greek and Latin word roots, suffices and prefixes, and how they are used and combined to form the specialized vocabulary of the various health and life sciences.

Hebrew

HEB 1100 Beginning Hebrew 1. F.
Credits: 5; Prereq: None.

HEB 1101 Beginning Hebrew 2. W.
Credits: 5; Prereq: HEB 1100 or equivalent.

HEB 1102 Beginning Hebrew 3. S.
Credits: 5; Prereq: HEB 1101 or equivalent.

HEB 3230 Intermediate Hebrew 1. F.
Credits: 4; Prereq: HEB 1102 or equivalent.

HEB 3231 Intermediate Hebrew 2. W.
Credits: 4; Prereq: HEB 1102 or equivalent.

HEB 3232 Intermediate Hebrew 3. S.
Credits: 4; Prereq: HEB 1102 or equivalent.

HEB 4905 Individual Work. F, W, S.
Credits: 2 to 5; Prereq: HEB 1102, 3232 or equivalent.

Latin (Language Study)

LAT 1120 Beginning Latin 1. F.
Credits: 5; Prereq: None.

LAT 1121 Beginning Latin 2. W.
Credits: 5; Prereq: LAT 1120 (grade of C or better, or S) or equivalent work.

LAT 1122 Beginning Latin 3. S.
Credits: 5; Prereq: LAT 1121 (grade of C or better, or S) or equivalent work.

LAT 3230 Survey of Latin Literature 1. F.
Credits: 4; Prereq: LAT 1122 or equivalent work (e.g., 2-3 yrs. high school Latin).
Study of representative classical Roman poets (for example, Catullus, Ovid, or Tibullus).

LAT 3231 Survey of Latin Literature 2. W.
Credits: 4; Prereq: Same as for LAT 3230.
Study of representative classical Roman prose authors (for example, Cicero, Sallust, or Livy).

LAT 3232 Survey of Latin Literature 3. S.
Credits: 4; Prereq: Same as for LAT 3230.
Study of texts representing major classical Roman literary genres (for example, comedy, satire, lyric Poetry, history, oratory, or elegy).

GRADUATE COURSE

LAT 6840 History of the Latin Language.
Credits: 5

Latin Literature

LNW 4905 Special Study in Latin. F, W, S.
Credits: 2 to 5; Prereq: LAT 1122, LAT 3212 or equivalent.
Readings, conferences, and reports. With change of content may be elected for additional credit.

Descriptions

CLINICAL PSYCHOLOGY

GRADUATE COURSES

LNW 5905 Special Study in Latin.
Credits: 4

LNW 6902 Special Study in Latin Literature.
Credits: 5

LNW 6905 Individual Work.
Credits: 3 to 5

LNW 6910 Supervised Research.
Credits: 1 to 5††

LNW 6940 Supervised Teaching.
Credits: 1 to 5††

LNW 6971 Master's Research.
Credits: 1 to 15††

CLINICAL AND COMMUNITY DIETETICS
College of Health Related Professions

INSTRUCTIONAL STAFF 1979-80

Emerson, A.P., Program Director; Dalgas, K.; Farmer, P.; Gross, M.; Keane, M.; Perkin, J.; Stapell, C.

See also courses under Health Related Professions (HRP).

Dietetics

DIE 3124 Principles of Dietetic Management. W.
Credits: 4
Basic principles of management, computer science, economics and industrial engineering as applied to the management field in dietetics.

DIE 3535 Dietetics. S.
Credits: 6; Prereq: HUN 3122.
Initial practicum course in dietetics coordinated with didactic modules.

DIE 4174 Food Systems Management. SS.
Credits: 8; Prereq: DIE 3124, HUN 3221; Coreq: HUN 4241.
Practicum course in food systems management coordinated with didactic modules.

DIE 4274 Clinical Dietetics I. W.
Credits: 8; Prereq: DIE 4355; Coreq: DIE 4516.
Practicum course in medical dietetics coordinated with didactic modules.

DIE 4276 Clinical Dietetics II. S.
Credits: 10; Prereq: DIE 4274, DIE 4516; Coreq: HSC 4905.
Practicum course in advanced medical dietetics coordinated with didactic modules.

DIE 4355 Community Dietetics I. F.
Credits: 8; Prereq: DIE 4174, HUN 4241.
Practicum course in community dietetics programs coordinated with didactic modules.

DIE 4376 Community Dietetics II. S.
Credits: 10; Prereq: DIE 4355, DIE 4274; Coreq: HSC 4905.
Practicum course in advanced community dietetics coordinated with didactic modules.

DIE 4516 Clinical and Community Dietetics Seminar. W.
Credits: 4; Prereq: HUN 4241, DIE 4355; Coreq: DIE 4245 and DIE 4275. Permission of Program Director.
Selected readings and discussions of current developments in the field of clinical or community dietetics. Individual investigations and reports on assigned topics.

††Grading is on S-U basis only.

Human Nutrition

HUN 3122 Nutrition and Environmental Factors. F.
Credits: 4
A study of physiological requirements during the life cycle and how environmental factors such as economic status, technological change, age, race, education, religion and cultural and social customs influence the establishment of meal patterns and food habits.

CLINICAL PSYCHOLOGY
College of Health Related Professions

INSTRUCTIONAL STAFF 1979-80

Perry, N.W., Jr., Chairman; Adams, J.; Barger, B.; Belar, C.D.; Berg, W.K.; Blashfield, R.; Cohen, E.; Cohen, L.D.; Cunningham, W.R.; Davis, H.C., Jr.; Dingus, M.C.; Fennell, E.B.; Fischler, I.; Goldman, J.R.; Goldstein, M.K.; Hall, E.; Harrower, M.; Hielman, K.M.; Hornberger, R.H.; Johnson, J.; Johnson, S.B.; Levy, C.M.; McCaulley, M.H.; McGlynn, D.; Mealiea, W.; Melamed, B.; Meyer, M.E.; Plutzky, M.; Rasbury, W.C.; Rekers, G.; Rice, W.J.; Robbins, R.; Ross, J.; Schlenker, B.; Schumacher, A.S.; Starr, D.L.; Van De Riet, V.D.; Vuchinich, R.E.; Webb, W.B.; Wells, A.

Clinical Psychology
GRADUATE COURSES

CLP 6375 Introduction to Clinical Psychology.
Credits: 4

CLP 6407 Psychological Treatment I.
Credits: 4

CLP 6417 Psychological Treatment II.
Credits: 4

CLP 6437 Behavioral Assessment.
Credits: 4

CLP 6441 Intellectual Assessment.
Credits: 4

CLP 6448 Personality Assessment.
Credits: 4

CLP 6449 Life History Research in Psychopathology.
Credits: 4

CLP 6497 Psychological Disturbances of Adults.
Credits: 4

CLP 6526 Introduction to Clinical Research and Design.
Credits: 4

CLP 6905 Individual Work.
Credits: 1 to 5

CLP 6910 Supervised Research.
Credits: 1 to 5††

CLP 6940 Supervised Teaching.
Credits: 1 to 5††

CLP 6943 Practicum in Clinical Psychology.
Credits: 6††, max. of 12

CLP 6947 Advanced Practicum in Clinical Psychology.
Credits: 1 to 6††, max. of 12

CLP 6971 Master's Research.
Credits: 1 to 15††

CLP 7348 Theory and Practice of Psychological Consultation.
Credits: 4

CLP 7404 Special Issues, Methods and Techniques in Psychological Treatment.
Credits: 4, max. 8

CLP 7406 Psychodynamic Theory.
Credits: 4; max. 8

CLP 7408 Gestalt Therapy and Techniques.
Credits: 4, max. 8

CLP 7409 Marital Dysfunction.
Credits: 4

CLP 7427 Neuropsychological Assessment.
Credits: 4

CLP 7438 Selected Methods in Clinical Assessment.
Credits: 4, max. 8

CLP 7468 Psychological Treatment with Groups.
Credits: 4

CLP 7488 Clinical Treatment of Adolescents.
Credits: 4

CLP 7936 Medical Psychology.
Credits: 4

CLP 7938 Forensic Psychology.
Credits: 4

CLP 7942 Practicum in Behavior Therapy.
Credits: 4

CLP 7949 Internship.
Credits: 5

CLP 7980 Doctoral Research.
Credits: 1 to 15††

Community Psychology

CYP 6709 Theory and Research in Community Clinical Psychology.
Credits: 4

CYP 7308 Advanced Community Intervention.
Credits: 4

Developmental Psychology

DEP 6216 Psychological Disturbances of Children.
Credits: 4

DEP 7217 Minimal Brain Dysfunction.
Credits: 4

COASTAL AND OCEANOGRAPHIC ENGINEERING
College of Engineering

INSTRUCTIONAL STAFF 1979-80

Sheppard, D.M, Acting Chairman; Chiu, T.Y.; Gondeck, A.R.; Mehta, A.J.; Ochi, M.K.; Partheniades, E.; Shemdin, O.H.; Wang, Y.H.

Engineering: Ocean

EOC 5052 Ocean Engineering.
Credits: 4

EOC 5180 Stochastic Processes for Coastal and Ocean Engineers.
Credits: 4

EOC 5310 Acoustics in Fluids.
Credits: 4

EOC 5860 Harbor Engineering.
Credits: 4

EOC 6196 Littoral Processes.
Credits: 4

EOC 6430 Coastal Structures 1: Theory.
Credits: 4

EOC 6431 Coastal Structures 2: Applications.
Credits: 4

EOC 6626 Selected Field and Laboratory Problems.
Credits: 3 to 8

EOC 6850 Simulation Techniques.
Credits: 4

EOC 6905 Individual Study in Coastal and Oceanographic Engineering.
Credits: 1 to 9

EOC 6910 Supervised Research.
Credits: 1 to 5††

EOC 6934 Advanced Topics in Coastal and Oceanographic Engineering.
Credits: 1 to 6

EOC 6939 Graduate Coastal Engineering Seminar.
Credits: 1††; maximum of 12.

EOC 6940 Supervised Teaching.
Credits: 1 to 5††

EOC 6971 Master's Research.
Credits: 1 to 15††

Oceanography

OCE 4016 Introduction to Coastal and Oceanographis Environment. F, S.
Credits: 4
Important marine and coastal process including relevant atmospheric and hydrological aspects. Introduction to oceanography and geophysical fluid motions; waves; tides; air-sea interaction; pollutant transport; littoral processes.

Oceanography: Chemical

OCC 5050 Introduction to Ocean Chemistry for Engineers.
Credits: 4

Oceanography: Physical

OCP 4290 Coastal Hydraulics. W.
Credits: 3; Prereq: OCE 4016 or consent of instructor.
Applications of fluid mechanics in the coastal zone. Inlet dynamics; surface and internal waves; sediment transport and deposition; laboratory techniques and measurements.

GRADUATE COURSES

OCP 6056 Physical Oceanography.
Credits: 4

OCP 6165 Ocean Waves 1: Linear Theory.
Credits: 4

OCP 6167 Ocean Waves 2: Nonlinear Theory.
Credits: 4

OCP 6169 Random Sea Analysis.
Credits: 4

OCP 6295 Estuarial Hydromechanics and Engineering 1.
Credits: 4

OCP 6296 Estuarial Hydromechanics and Engineering 2.
Credits: 4

OCP 6297 Estuarial Hydromechanics and Engineering 3.
Credits: 4

OCP 6555 Air-Sea Interaction 1: Microscale.
Credits: 4

OCP 6556 Air-Sea Interaction 2: Macroscale.
Credits: 4

COMMUNICATION
College of Journalism and Communications

INSTRUCTIONAL STAFF 1979-80

Lowenstein, R.L., Dean; Butler, G.A.; Christiansen, K.A.; Davis, H.G.; Detweiler, J.S.; Edwardson, M.N.; Fregly, M.S.; Griffith, J.L.; Griggs, H.H.; Hooper, L.J.; Jacobs, A.J.; Jones, J.P.; Kendall, R.L.; Kent, K.E.M.; Pierce, F.N.; Pierce, R.N.; Pisani, J.R.; Smeyak, G.P.; Weston, E.G.

GRADUATE COURSES

With permission of the instructor and the College, an undergraduate may enroll in graduate-level courses if the student has Senior standing and an Upper Division grade-point average of at least 2.8. Such courses are listed below and are described under "Journalism and Communications" in the graduate school catalog. Students interested in graduate work are referred to these course offerings.

MMC 6910 Supervised Research.
Credits: 1 to 5††, max. of 5.

MMC 6920 Communication Colloquium.
Credits: 1††

MMC 6936 Special Topics in Mass Communication.
Credits: 2 to 5, max. of 12.

MMC 6971 Master's Research.
Credits: 1 to 15††

Public Relations
GRADUATE COURSES

PUR 6934 Problems in Public Relations.
Credits: 4

Radio-Television
GRADUATE COURSES

RTV 5603 Teaching Through Television.
Credits: 4

RTV 6503 Broadcast Program and Production Problems.
Credits: 4

RTV 6601 Radio and Television in Education.
Credits: 4

RTV 6801 Broadcast Station Management.
Credits: 4

Advertising
GRADUATE COURSES

ADV 6503 Creative Advertising Strategy and Consumer Behavior.
Credits: 4

ADV 6504 Advertising Research Problems.
Credits: 4

ADV 6602 Advertising/Public Relations Management.
Credits: 4

Communication
GRADUATE COURSES

COM 6315 Advanced Research Methods.
Credits: 4

COM 6940 Supervised Teaching.
Credits: 1 to 5††, max. of 5.

Film
GRADUATE COURSES

FIL 6101 Advanced Radio, Television and Film Writing.
Credits: 4

Journalism
GRADUATE COURSES

JOU 6112 Investigative Reporting.
Credits: 4

JOU 6113 Urban Affairs Reporting.
Credits: 4

JOU 6190 Seminar in Problems of News Gathering and Presentation.
Credits: 4

JOU 6501 Newspaper Production and Management.
Credits: 4

JOU 6891 Seminar in Journalism Teaching.
Credits: 4

JOU 6892 Seminar in Journalism as Literature.
Credits: 4

Mass Media Communication
GRADUATE COURSES

MMC 6202 Seminar in Legal Problems of Mass Communication.
Credits: 4

MMC 6303 International Communication I.
Credits: 4

MMC 6304 International Communication II.
Credits: 4

MMC 6400 Mass Communication Theory.
Credits: 4

MMC 6421 Research Methods in Mass Communication.
Credits: 4

MMC 6560 Seminar in History of Mass Communication.
Credits: 4

MMC 6660 Seminar in Mass Communication and Society.
Credits: 4

MMC 6905 Individual Work
Credits: 1 to 5, max. of 10

COMPUTER AND INFORMATION SCIENCES
Intercollege Department

INSTRUCTIONAL STAFF 1979-80

Elliott, R.W., Chairman; Brownsmith, J.D.; Dankel, D.D.; DePree, R.W.; Dujmovic, J.J.; Elnicki, R.A.; Flannery, W.D.; Gondeck, A.R.; Hale, M.P.; Haskins, G.M.; Haskins, L.B.; Ingram, W; Kisko, T.M.; Lam, H.; Navathe, S.B.; Oliver, L.H.; Ramey, R.A.; Selfridge, R.G.; Su, S.Y.; Tou, J.T.; Vickers, F.D.; Wessels, R.H.; Yellen, V.M.

General Information

The Intercollege Department of Computer and Information Sciences was created to serve the needs of the entire university. Toward this end several service courses are available a well as several degree programs. Bachelor Degree programs are currently available through the College of Liberal Arts and Sciences, the College of Business Administration, and the College of Engineering.

Programs for CIS Majors in the College of Business Administration.

The student is referred to the College of Business Administration section of the catalog for the degree requirements in CIS under the College of Business Administration.

††Grading is on S-U basis only.

Descriptions

COMPUTER AND INFORMATION SCIENCES

Programs for CIS Majors in the College of Engineering.

The student is referred to the College of Engineering section of the catalog for the degree requirements in CIS under the College of Engineering.

Program for CIS Majors in the College of Liberal Arts and Sciences.

The minimum requirements for a Bachelor's degree with a major in CIS from the College of Liberal Arts and Sciences are listed in the following paragraphs. In addition, the student must satisfy the general college requirements as described under the College of Liberal Arts and Sciences section of this catalog.

a. The student should complete in the lower division MAC 3311, 3312, 3313, MAS 3114, STA 4033, COC 3110, CDA 3101, COP 3530, COP 3550, CNM 3110, and STA 3023 or 3032.

b. In the upper division the student should complete the following courses:

1. COP 3134, COP 4620, ENC 3343
2. One of CIS 4321, COP 4300, COP 4540
3. One of EEL 3701, EEL 4712, EEL 4713, EEL 4714. The student is urged to check with the instructor about the advisability of taking EEL 3701 before this course.
4. Twelve credits of CIS electives. The student is urged to consult the CIS advisor before choosing these courses as some combinations will not saisfy the requirement.
5. CIS 493S (1 credit).
6. CIS 490S (4 credits). In addition to area requirements all students are required to take at least four hours of CIS 490S during their senior year. All students will, as part of the registration process for CIS 490S, discuss and obtain approval prior to registration in CIS 490S of all programming projects with the faculty member assigned to CIS 490S the coming quarter. This faculty member will be responsible for the final grade.

c. A minimum of 53 credits from the Computer and Information Sciences Department is required for graduation.

Computer and Information Sciences Departmental Honors.

To qualify for honors in Computer and Information Sciences a student must take two Computer and Information Sciences courses approved by the advisor over and above the regular degree requirements, he or she must attain an overall GPA of 3.5 in all Computer and Information Sciences coursework and must obtain a grade of A or B in all Computer and Information Sciences courses taken. In addition, the CIS 490S (Special Problems in CIS) project must be an Honors Project to be presented in a public seminar. A student must petition and get approval to attempt CIS Honors at least two quarters before graduation.

Computational/Numerical Methods

CNM 3100 Numerical Techniques. F, W, S, SS.
Credits: 2; Prereq: COP 3212; Coreq: MAP 3302.
Major techniques for solving problems quantitatively through the use of computers and computer programming languages. Numerical and computer solutions to elementary systems of algebraic equations and ordinary differential equations.

CNM 3110 Algorithms of Numerical Calculus, F, S.
Credits: 4; Prereq: COC 3110 and MAS 3114.
A study of many different algorithms designed to consider properties of global versus local convergence, with elementary error analysis, their implementation in different languages with emphasis on computer solution of problems.

††Grading is on S-U basis only.

Computer & Information Systems

CIS 4300 Information Resources in Business and Economics. W, SS.
Credits: 4; Prereq: CIS 4321.
Directed experience in utilization of information resources. Problems in application of information storage, organization, and searching techniques.

CIS 4321 Introduction to Management Systems. F, S.
Credits: 4; Prereq: COP 3121.
A discussion of database management systems including system models, evaluation, analysis, and implementation techniques.

CIS 490S Special Problems in CIS. F, W, S, SS.
Credits: 1 to 6
Problems in different areas of computer science, operating systems, management systems, and information retrieval. This course requires actual experience in developing and maintaining a system. May be repeated for a maximum of 12 hours.

CIS 4930 Special Topics in Computer and Information Sciences. F, W, S.
Credits: 2 to 5
Topics vary. Particular computer languages such as ICL, PASCAL, APL, SNOBOL, etc., and current topics of interest in area of computer and information sciences.

CIS 4935 Senior Seminar. F, W, S.
Credits: 1; Prereq: Senior standing in CIS.
Reports and discussions on CIS research, current developments, practice, and publications.

CIS 4949 Co-op Work Experience. F, W, S, SS.
Credits: 1††
One term industrial employment, including extra work according to a pre-approved outline. Practical engineering work under industrial supervision, as set forth in the College of Engineering Regulations.

Computer Applications

CAP 3800 Statistical Data Processing. F, S.
Credits: 4; Recommended Prereq: One course in elementary statistics.
Techniques for coding and analysis of research data using SPSS (Statistical Package for the Social Sciences); introduction to U.S. Census computerized database and associated retrieval software. Computer solution of assigned problems by the student.

CAP 4621 Artificial Intelligence and Heuristics. S.
Credits: 4; Prereq: COP 3550.
Objectives of artificial intelligence. Self organizing systems. Learning systems. Game playing systems.

Computer Concepts

COC 3110 Introduction to CIS. F, W, S, SS.
Credits: 4; Coreq: MAC 3311.
Introduction to computers and algorithms. Programming in a high level language. Topics include loops, arrays, and procedures. Structured programming techniques.

COC 3400 Computers and Modern Society. F, W, S, SS.
Credits: 4
Impact of computers on society. Discussion includes specific cases from many areas, but does not include problem solution by the student. This course does not teach how to use the computer but gives an understanding of the implications of computers.

Computer Design/Architecture

CDA 3030 Computational Techniques. F, S.
Credits: 4; Prereq: MAP 3302 and EIN 3114 or COP 3110 or COC 3110.
Applications of analog, digital and hybrid computers to computation and simulation.

CDA 3101 Introduction to Computer Organization. F, W, S, SS.
Credits: 4; Prereq: MAC 3311; Coreq: COC 3110.
Organization of computing systems. Logical basis of computer structure. Machine representation of instructions and data, flow of control, basic machine instructions. Assembly language programming.

Computer Programming

COP 3110 Introduction to Computer Programming. F, W, S, SS.
Credits: 2; Prereq: High School Algebra.
An introduction to computer programming using FORTRAN. Relatively slow paced. Language development is not extensive. Problems will be solved using Computer Center facilities. Degree of programming skill is not tested. Students may receive credit for only one of COP 3210, COP 3212, COP 4112, COP 3110. CIS majors may not receive credit for this course.

COP 3111 Advanced FORTRAN Programming. F, W, S, SS.
Credits: 2; Prereq: COP 3210 or COP 3212 or COP 3110 and permission of instructor.
Advanced topics in FORTRAN including logical, double precision and complex arithmetic and tape and disk (direct access) input and output. Creating and using a private library. Linkages to other languages. Students may receive credit for only one of COP 3111 and COP 4112.

COP 3120 Introduction to COBOL Programming. F, W, S, SS.
Credits: 4
A course in COBOL programming for non-CIS majors. Structured programming in COBOL is stressed. Topics include information transfers, arithmetic and logical operations, the structuring of data, and arrays. CIS majors may not receive credit for this course.

COP 3121 Information Systems Programming 1. F, W, S, SS.
Credits: 4; Prereq: COP 3530.
Techniques for business information systems programming in COBOL utilizing comprehensive facilities of the COBOL language. Business applications and examples of their solutions will be employed throughout. Topics include advanced table handling as well as sequential, random, and indexed file organizations and manipulation techniques in COBOL.

COP 3122 Information Systems Programming 2. W.
Credits: 4; Prereq: COP 3121.
Advanced information systems programming utilizing the extended facilities of the COBOL language. Topics include information and string manipulation, sort/merge techniques, automated report generation, and multi-access terminal communication with the COBOL program in a teleprocessing environment.

COP 3210 Computer Programming Using FORTRAN. F, W, S, SS.
Credits: 2; Prereq: MAC 1132 or equivalent.
An in depth treatment of computer programming using FORTRAN. Higher level of math and logic background required than for COP 3110. Relatively fast paced. Problems relating to the student's major area will be solved using Computer Center facilities. Degree of programming skill is subjectively tested. Students may receive credit for only one of COP 3210, COP 3212, COP 4112, COP 3110.

COP 3212 Computer Programming for Engineers. F, W, S, SS.
Credits: 3; Prereq: MAC 3312.
Computer programming and the uses for large scale digital computers. Emphasis will be placed on the scientific oriented computer language FORTRAN. Engineering and technical problems are solved by each student using the facilities of the Computer Center. This course is specifically directed toward those students who are pursuing

technical careers in fields of employing a reasonably high degree of mathematics. Students may receive credit for only one of COP 3210, COP 3212, COP 4112, COP 3110.

COP 3530 Data Structures. F, W, S, SS.
Credits: 4; Prereq: COC 3110.
Storage of arrays. Stacks, queues, and deques. Linked linear lists. Trees and multilinked structures. Sorting and searching.

COP 3550 Structure of Programming Languages. F, W, S, SS.
Credits: 4; Prereq: COP 3530.
Formal definitions of languages, including syntax and semantics. A comparative study of the structures and features of the major programming languages. Effective programming design techniques.

COP 3603 Software System Development. F, W, S, SS.
Credits: 4; Prereq: COP 3530
An advanced high-level language programming course. topics include random access processing, advanced language features, software design and development techniques, large project management.

COP 4112 Applied FORTRAN Programming Techniques. F, W, S, SS.
Credits: 4
An intensive survey study of digital computer programming using the FORTRAN language. Practical problems in various disciplines will be solved by the students. Students may receive credit for only one of COP 3210, COP 3212, COP 4112, COP 3110.

COP 4150 Introduction to APL. F, W, S SS.
Credits: 4
APL is a highly interactive computer language. Though no formal computing or mathematics prerequisite is required, considerable maturity is necessary. Some linear algebra is very desirable.

COP 4300 Discrete Systems Simulation. W, S.
Credits: 3; Prereq: STA 4033.
Simulation methodology, languages and design. Monte Carlo techniques, GPSS (General Purpose Simulation System), applied to the solution of discrete system problems.

COP 4400 Basic Assembly Language 1. F, W, S.
Credits: 4; Prereq: CDA 3101.
Study of basic assembly language for large scale computers. Covers the entire operation set including input and output. Macro programming and conditional assembly is also included.

COP 4540 File Structures. W, SS.
Credits: 4; Prereq: COP 3530.
Sequential, indexed, direct, and virtual files. Multiple-key file access facilities. Comparative data storage techniques using random access devices. Review of file management systems.

COP 4620 Systems Programming 1. F, W, S.
Credits: 4; Prereq: COP 3530.
The design and implementation of loaders and assemblers. Introduction to the basic principles of operating systems.

COP 4640 Compilers 1. W, SS.
Credits: 4; Prereq: COP 3550.
Translation of languages and scanning. Parsing techniques. The implementation of a compiler.

Computer Resources/Management

CRM 4121 Information Centers. S.
Credits: 4; Prereq: Junior or Senior standing.
A study of the administration of a computer center, managing personnel, balancing personnel and hardware, software, evaluation and selection, project management and control, and utilization of outside computer service organizations.

Computer Theory

COT 3001 Applications of Discrete Structures. F.
Credits: 4; Prereq: CDA 3101.
Applications of symbolic logic to CIS. Sets, relations, functions, and data structures. Induction and recursion. Algebraic structures, grammars, and languages. Application and representation of graphs.

COT 4125 Formal Languages and Syntactic Analysis. W.
Credits: 4; Prereq: COP 3550.
Definition of formal grammars. Connections with automata theory. Applications to systems programming.

COT 4320 Computability and Unsolvability. S.
Credits: 4; Prereq: Junior or Senior standing.
Computability, algorithms, Turing machines, recursive functions, decidability, and unsolvability. A course primarily for students of mathematics, philosophy, and computer and information sciences.

Engineering: Electrical

EEL 4712C Digital Computer Principles 1. F, W, S, SS.
Credits: 5; Prereq: EEL 3701
Introduction to logic design with electronic digital integrated circuits. Applied switching algebra. Sequential circuits. Laboratory.

EEL 4713C Digital Computer Principles 2. F, S, SS.
Credits: 5; Prereq: EEL 3701; concurrent enrollment in EEL 4714 is suggested.
The use of electronic digital modules to design computers. Organization and operation of computers. Hardware/software tradeoffs. Design of computer interfacing. Laboratory.

EEL 4714C Digital Computer Principles 3. F, S.
Credits: 5; Prereq: EEL 3701; concurrent enrollment is EEL 4713 is suggested.
Hardware/software tradeoffs in computer design. Minicomputer operation and programming. Software design for minicomputer systems and interfacing. Laboratory.

EEL 4744C Microcomputer Hardware and Software Components. W, SS.
Credits: 5; Prereq: EEL 3303, EEL 3701C.
Functional behavior of microprocessor, memory, and peripheral support integrated circuit hardware. Microcomputer system and development software.

GRADUATE COURSES

Computer & Information Sciences

CIS 5041 Information Retrieval
Credits: 4

CIS 6122 Data Base Management Systems
Credits: 4

CIS 6123 Data Base Design and Implementation
Credits: 3

CIS 6935 Graduate Seminar
Credits: 1

CIS 6937 Special Topics in CIS
Credits: 1 to 5

CIS 6971 Master's Research
Credits: 1 to 15††

Computer Applications

CAP 5722 Computer Graphics
Credits: 4

CAP 6624 Advanced Computer Applications
Credits: 3

Computer Design/Architecture

CDA 6107 Microprogramming
Credits: 4

Computer Programming

COP 5622 Operating Systems
Credits: 4

COP 5630 Software Engineering
Credits: 4

COP 5641 Computer Language Translators
Credits: 4

COP 6505 Survey of Programming Languages
Credits: 3

Computer Resources/Management

CRM 6200 Computer System Measurement and Evaluation
Credits: 4

COOPERATIVE EDUCATION PROGRAM

Academic Affairs

INSTRUCTIONAL STAFF 1979-80

Shiflett, Barry, Assistant Director for Co-Op.

General Information

The Cooperative Education Program offers students an opportunity to integrate classroom instruction with practical work experience as a part of their academic program.

Educational work assignments are selected for students in career related fields with business, industry, government and other professional employers located in Florida and elsewhere. The Program gives students the opportunity to verify academic and vocational interests, gain valuable experience in chosen career fields prior to graduation and earn income that can be used to defray college expenses.

Qualifications

To qualify for a Co-op work assignment a student must have completed the freshman year with at least a 2.0 GPA. After arrangements have been made for the student to be employed in a career-related job, enrollment in an appropriate "Co-op" Work Experience Course follows.

Transfer Students

Students who were Co-oping at a Community College and who wish to continue to do so while at the university will ordinarily wait until after completing one quarter at the UF. Articulation agreements add further flexibility with Community College transfer students, and a "personalized" arrangement can often be made based on individual requirements.

Formats

Co-op students may participate in the following work programs:
ALTERNATING: The student alternates between a full-time academic schedule followed by full-time work for a quarter, etc. (Variations are permitted for flexibility.)
PARALLEL: The student, while carrying academic course work, is also employed in an appropriate job.

Course Offerings

With the exception of the two co-op courses listed below, all co-op courses are listed under the academic department with which the work is related. A student can determine if a co-op education program is available in his/her major field of study by checking the course listings under the appropriate academic department. The upper division course number for co-op is 4949. This is preceeded by the letter designation for the academic department concerned.

††Grading is on S-U basis only.

Descriptions

CRIMINAL JUSTICE

All lower division students qualified for co-op course work register for:

IDS 2949 Cooperative Education Work Experience F, W, S, SS.
Credits: 1††; Prereq: freshman year & approval by academic advisor of proposed major.
Practical co-op work experience related to intended academic major or career field interest under approved industrial, business, institutional or governmental agency supervisor. May be repeated with changed work program upon departmental approval.

All liberal arts upper division students qualified for co-op course work register for:

IDS 4949 Cooperative Education Work in Liberal Studies F, W, S, SS.
Credits: 1††: Prereq: Sophomore Year & Dept Desig. Classification
Practical co-op work experience related to intended academic major or career field interest under approved industrial, business, institutional or governmental agency supervisor. May be repeated with changed work program upon departmental approval.

CRIMINAL JUSTICE
College of Arts and Sciences

INSTRUCTIONAL STAFF 1979-80

Swanson, R.M., Director; Alexander, M.E.; Keller, O.J.; Terry, W.C. Collateral faculty represented by Matheny, A.R. (Political Science); Frazier, C.E. (Sociology); Hollien, H.F. (Linguistics); Shenkman, F.A.; Rothman, H.B. (Speech)

The college of Arts and Sciences offers an interdisciplinary undergraduate major in Criminal Justice. The program is organized around a core of specialized courses in Criminal Justice as well as selected courses in Political Science, Sociology, and Psychology. The major in Criminal Justice is designed as preparation for leadership roles in such fields as law enforcement, court administration, corrections, probation, and parole, as well as preparation for graduate work in the social and behavioral sciences, and criminal justice.

Students who wish to major in Criminal Justice must have a 2.8 overall G.P.A. for admission to the program.

The minimum number of hours required for a baccalaureate degree in criminal justice would be 48 hours.

The requirements for the major in Criminal Justice are:

1. 20 credits from CCJ courses including CCJ 3020.

2. Two psychology courses from the following including at least one marked*: SOP 3004*, PPE 3004*, SOP 4513, SOP 4404, SOP 4334, CLP 4144.

3. Two sociology courses from the following including at least one marked*; SOC 4150*, 4130*, 3300, 3745, 4422, 4720.

4. Two political science courses from the following including at least one marked*: POS 3606, 3652*, 4682*, 4684, 4691*, PAD 4003, POS 4284.

5. STA 3013 or 3023.

Criminal Justice majors may take, for credit toward their major, CCJ 4940 only once and for not more than 4 credit hours. (This course covers field experience as well as internships.) Criminal justice majors may take IDS 4940 for 4 elective credits, but not more than once for additional field experience

††Grading is on S-U basis only.

CCJ 4905 may only be taken once, for no more than 4 credit hours. This is a supervised, independent research course and the student taking it must have taken CCJ 4700 (or a similar research methods course in POS, SOC, PSY, ANT), as a prerequisite. IDS 4905, POS 4905, PSY 4913, SOC 4905 may be taken for 4 elective credits for supervised independent research.

All students must have faculty approval to take any of these courses.

In addition, the student and his/her adviser will develop 20 additional elective hours from a list of more general courses offered in the departments of POS, PSY, SOC, STA, ANT, MAN.

Students should consult periodically with their advsiers and/or the departmental office to keep abreast of program additions and changes. Criminal Justice majors and potential majors should contact the Criminal Justice Office.

Criminology and Criminal Justice

CCJ 3020 Introduction to Criminal Justice. F, W, S, SS.
Credits: 4
Introductory course designed to provide an overview of the criminal justice system and its processes. Consideration of the interrelationships among criminal law, law enforcement, courts, diversion programs, corrections, probation and parole.

CCJ 4101 Law Enforcement and Social Control. F, W.
Credits: 4; Prereq: CCJ 3020.
Study of the role of the police in the criminal justice system of a democratic society. Focus on the organization of police work, discretion and police role in a socio-legal context.

CCJ 4290 Prosecution and Adjudication. W, S.
Credits: 4; Prereq: CCJ 3020.
An examination of the interactions among the legal, social and psychological influences on the behavior of criminal courts, prosecutors, defense attorneys and the accused.

CCJ 4301 Process of Correction, Probation & Parole. F, W, S.
Credits: 4; Prereq: CCJ 3020.
An examination and discussion of the American Correctional Process as a continuum with emphasis on development and system change.

CCJ 4700 Criminal Justice Research. S.
Credits: 4; Prereq: CCJ 3020.
Application of social science methods to Criminal and Criminal Justice Research. Research design for evaluation of Criminal Justice Programs and test of theories of Criminal Etiology.

CCJ 4905 Individual Work. F, W, S, SS.
Credits: 1 to 4; Prereq: CCJ major, 12 credits in criminal justice and consent of the instructor.
Qualified students and the instructor concerned will develop a course of study or investigation designed to extend available course work. A formal written report is required.

CCJ 4934 Contemporary Issues in Criminal Justice. F, W, S, SS.
Credits: 4; Prereq: CCJ 3020.
A changing-topic seminar which will examine a variety of current issues, techniques and problems in criminal justice. May be repeated with change in topic.

CCJ 4940 Practicum. F, W, S, SS.
Credits: 1 to 4; Prereq: Senior major in criminal justice, minimum 25 credits of required course work toward CRJ major and consent of the Director.
Supervised experience in a criminal justice agency. A post-practicum written report is required.

DAIRY SCIENCE
College of Agriculture

INSTRUCTIONAL STAFF 1979-80

Van Horn, H.H., Chairman; Bachman, K.C.; Beede, D.K.; Collier, R.J.; Head, H.H.; Marshall, S.P.; Smith, K.L.; Thatcher, W.W.; Wilcox, C.J.; Wing, J.M. This staff cooperates in teaching courses in Animal Sciences — General and Food Science.

DAS 3211 Dairy Cattle Management. F, SS.
Credits: 4
Management principles necessary for successful dairying with emphasis on large dairy herds.

DAS 3214 Dairy Cattle Evaluation. S.
Credits: 2
Evaluation of dairy cows and sires on the basis of performance traits and visual appraisal. Use of performance records and pedigrees in evaluation of cows and sires, the standards of body conformation for the various dairy breeds, and beginning dairy cattle judging will be stressed.

DAS 4213 Dairy Management Techniques. W.
Credits; 1 to 4; Prereq: DAS 3211 and permission of instructor. May be repeated with change in contents up to a maximum of 4 credits.
Planning, direction and management techniques employed in large dairy herds.

DAS 4411 Dairy Cattle Nutrition. S.
Credits: 4; Prereq: ASG 3404.
Principles of nutrition and their application to dairy cattle feeding.

DAS 4510 Physiology of Lactation. S.
Credits: 4; Prereq: BCH 3023.
Anatomy and development of the mammary gland and factors affecting milk yield and composition.

DAS 4614 Dairy Technology. F.
Credits: 5
Nature and properties of milk constituents; effects of processing upon milk constituents; defects in dairy foods and their causes; dairy foods processing; and analytical procedures for processing and quality control.

DAS 4905 Problems in Dairy Science. F, W, S, SS.
Credits: 1 to 4; Prereq: Permission of instructor.
Qualified students may choose an approved problem concerning some phase of Dairy Science.

DAS 4941 Fulltime Practical Work Experience in Dairy Science, F, W, S, SS.
Credits: 1 to 4; S-U Grade only; Prereq: Prior arrangement with adviser, approval of Department Chairman and Dean.
Practical work must be a new experience and related to the field of study.

(For other Dairy Production related courses, see Animal Science — General and for other Dairy Foods related courses see Food Sciences.)

GRADUATE COURESE

DAS 6212C Advanced Dairy Cattle Management.
Credits: 4

DAS 6281 Dairy Science Research Techniques.
Credits: 4

DAS 6322 Introduction to Statistical Genetics.
Credits: 3

DAS 6512C Advanced Physiology of Lactation.
Credits: 3

DAS 6531 Endocrinology.
Credits: 5

DAS 6541 Energy Metabolism.
Credits: 4

DAS 6555 Environmental Physiology of Domestic Animals.
Credits: 4

DAS 6617 Advanced Dairy Technology.
Credits: 2 to 5

DAS 6651 Industrial Food Fermentations.
Credits: 4

DAS 6905 Problems in Dairy Science.
Credits: 1 to 5

DAS 6910 Supervised Research.
Credits: 1 to 5††

DAS 6931 Graduate Seminar in Dairy Science.
Credits: 1

DAS 6940 Supervised Teaching.
Credits: 1 to 5††

DAS 6971 Master's Research.
Credits: 1 to 15††

ECONOMICS
College of Business Administration

INSTRUCTIONAL STAFF 1979-80

Adams, J.D.; Andersen, L.C.; Arditti, F.D., Chairman; Ballentine, J.G.; Barnea, M.; Berg, S.V.; Blair, R.D.; Bomberger, W.A.; Davis, J.R.; Denslow, D.A.; Filer, J.E.; Fishkind, H.H.; Frazer, W.J.; Goddard, F.O.; Horowitz, A.R.; Keig, N.G.; Kenny, L.W.; Kreicher, L.L.; Langham, M.R.; Lanzillotti, R.F.; Lockhart, M.; Maddala, G.S.; Milliman, J.W.; Saunders, S.G.; Smith, S.K.; Toda, Y.; Tyler, W.G.; Vernon, J.R.

An undergraduate major in Economics is available through both the College of Arts and Sciences and the College of Business Administration. Potential Economics majors should see an Economics advisor prior to entering upper division. Among the areas of concentration within the major are: Asian Studies, Business Economics, General Economics, International Economics, Latin American Economics, Pre Law, Pre Med, Public Service, Qualitative Methods in Economics and Business (including Computer Sciences), Urban Economics, and Secondary School Teaching (Certification in the Social Sciences).

Students majoring in Economics through the College of Arts and Sciences must complete at least 36 total hours of Economics work and a course in Statistics STA 2023. Majors are required to include in their Economics work ECO 4101 and ECO 4205 (normal prerequisites: ECO 2013-2023) and at least three courses from the following:*

ECO 3113 ECO 4633, ECO 4634, ECO 4622**
ECO 3703 ECO 4504
ECO 3411 ECP 4403
ECO 4935

Students in Arts and Sciences must attain a grade of "C" or better in ALL required work including the three courses selected from the list above.

Departmental Honors in Economics are awarded to Arts and Sciences students who have a 3.3 average in all Economics work and have completed a 5 hour honors program. The honors program will involve a research project and paper and enrollment in either a combination of ECO 4935 (3 hrs.) and ECO 4905 (2 hrs.) or in ECO 4905 for 5 hrs. Students progress will be evaluated by three faculty members.

Students majoring in Economics through the College of Business Administration must substitute ECO 4101 and ECO 4205 for ECO 3251-3100 in the College core program. They must also complete 18-28 credit hours of Economics electives including at least three courses (other than ECO 3411) from the list above.

See the appropriate sections for the College of Arts and Sciences and the College of Business Administration for further details.

GRADUATE COURSES

For admission to graduate courses, the student must have been admitted to the Graduate School, and normally should have had undergraduate courses in fields pertinent to the graduate course selected; or where necessary, special arrangements may be made with the approval of the department head.

Though no graduate major may be completed without adequate course work on the 6000 or higher level, certain undergraduate courses in economics are available for graduate credit as a part of a candidate's major. These are: Economic and Social History of Russia; ECO 5227 Central Banking and Monetary Policies; ECO 5545 Central Government Finance; ECO 5556 State and Local Finance; ECO 5716 Foreign Exchange and International Financial Institutions; ECS 5425 Financial Institutions and Fiscal Policies of Selected Latin American Countries; ECS 5115 Contemporary Economic Problems in Sub-Sahara Africa; ECO 5424-5425 Econometrics; ECP 5205 Economics of the Labor Market; ECP 5624 Regional Economics; ECP 5614 Urban Economics; ECP 5106 Economics of Human Resource Development; ECP 5606 Special Problems in Urban and Regional Economics.

Economics

ECO 2000 Economic Concepts and Institutions. W.
Credits: 4
Designed for students wishing a survey course in Economic Problems, and for junior college and public school teachers of social sciences. Basic economic concepts and the institutions of private enterprise systems. Theory, measurement and problems of national income and economic growth. Comparisons of main features of private enterprise and controlled economies.

ECO 2013 Basic Economics 1. F, W, S, SS.
Credits: 5
The nature of economics, economic concepts and institutions; emphasis on the accounting, analytical, and policy aspects of national income and product, as well as public finance, money and banking, and international trade.

ECO 2023 Basic Economics 2. F, W, S, SS.
Credits: 5
Theories of production, determination of prices and distribution of income in regulated and unregulated industries. Attention is also given to the problems of industrial relations, monopolies, and to comparative economic systems.

ECO 2620 Economic History of the United States. S.
Credits: 4
Industrial development of America; exploitation of natural resources; history of manufacturing, banking, trade, transportation, etc., the evolution of industrial centers; the factors contributing to the growth of the United States.

ECO 3100 Prices and Markets. F, W, S, SS.
Credits: 3; Prereq: ECO 2013-2023. Not for economics majors. Student may not receive credit for both ECO 3100 and ECO 4101.
The determination of prices and outputs of firms and industries under various market conditions. Reliance is placed upon both theory and applications.

ECO 3213 Monetary Economics. F, W, S.
Credits: 4; Prereq: ECO 4205 or ECO 3251.
Analysis on monetary systems and the relationships between money, prices, production, and employment. Factors determining the money supply, with emphasis on the role of commercial and central banks, and money demand.

ECO 3251 National Income Determinants and Policy. F, W, S, SS.
Credits: 5; Prereq: ECO 3100. Not for economics majors. Student may not receive credit for both ECO 3100 and ECO 4205.
National economic goals; the determinants of national income, consumption, investment, employment, money and prices; and the role of monetary and fiscal policy in attaining these goals.

ECO 3411 Economic and Business Statistics. F, W, S, SS.
Credits: 4; Prereq: STA 3023.
Introduction to properties of estimators, linear regression, analysis of variance, and non-parametric tests. Application of these tools to problems.

ECO 3703 International Economics. F, S.
Credits: 5; Prereq: ECO 3100 or ECO 4101 or permission of instructor.
Theory of international trade, significance of geographic, economic, social and political influences, current problems and tendencies in international trade and payments, tariffs, and other barriers to world trade, and national policies affecting foreign commerce.

ECO 4101 Microeconomic Theory. F, W, S, SS.
Credits: 5; Prereq: ECO 2013-2023. Primarily designed for majors in economics.
Nature, scope, and purpose of economic analysis. Examines the theory of consumer behavior, production, costs, firm behavior, and the allocation of resources.

ECO 4205 Macroeconomic Theory. F, W, S, SS.
Credits: 4; Prereq: ECO 3100 or ECO 4101 or permission of department.
Primarily designed for majors in economics. Theoretical determinants of aggregate employment, income, expenditures and the price level. Keynesian and neoclassical models are analyzed.

ECO 4303 Introduction to the History of Economic Thought. W.
Credits: 5
Leading ideas of the key contributors to the development of modern economic thought as set forth in their original works, with attention to the historical context and problems from which these ideas have emerged.

ECO 4431 Analysis and Forecasting of General Business Fluctuations. S.
Credits: 3; Prereq: STA 3023.
Mathematical and statistical theory of the relationship of important variables in the business cycle, such as profits, the price level, wages, national income, employment, savings and investments. Application of this theory to business forecasting.

ECO 4504 Public Finance. F, W, S.
Credits: 4; Prereq: ECO 2013-2023.
Principles governing expenditures of modern government; sources of revenue; public credit; fiscal policy; principles and methods of taxation and financial administration.

ECO 4622 United States Economic Development. S.
Credits: 5; Prereq: ECO 3251 or ECO 4205.
A study of American development from colonial times to the present, focusing on the sources of growth and institutional change. Emphasis on the analytical use of theory and statistics.

ECO 4633 Development of Modern Western Economy.
Credits: 5; Prereq: ECO 3251 or ECO 4205.
An analytical study of the economic development of Western Europe from the commercial revolution to the decline of British dominance in the world economy.

ECO 4634 Development of Modern Western Economy.
Credits: 5; Prereq: ECO 3251 or ECO 4205.
A continuation of ECO 4633. Twentieth century economic history.

††Grading is on S-U basis only.

Descriptions

ECONOMICS

ECO 4713 International Economic Relations. W.
Credits: 4; Prereq: ECO 3251 or ECO 4205 or permission of instructor.
The development of international economic policies; geographic, economic, social and political factors underlying contemporary international problems; economic and political methods employed by the leading commercial nations.

ECO 4905 Individual Work. F, W, S, SS.
Credits: 1 to 5; Prereq: 15 hours of economics and permission of department.
For advanced undergraduate students who need to supplement regular course work by individual studies under guidance. May be repeated with change of content up to a maximum of 10 credits.

ECO 4934 Special Topics. F, W, S. SS.
Credits: 1 to 5; Prereq: Permission of department.
Course of variable content providing an opportunity for the study in depth of topics not offered in other courses. May be repeated with change in content up to a maximum of 10 credits.

ECO 4935 Senior Seminar in Economics. S.
Credits: 3; Prereq: Advanced standing and permission of economics advisor. May be repeated for credit with change of content for a maximum of 9 credits.
Seminar in contemporary economic problems and issues. An intensive study of a specific area of public policy including current literature and research methods.

GRADUATE COURSES

ECO 5111 Microeconomic Theory.
Credits: 5

ECO 5204 Macroeconomic Theory.
Credits: 5

ECO 5227 Central Banking and Monetary Policy.
Credits: 5; Prereq: ECO 3213 or its equivalent.

ECO 5416 Statistical Methods in Economics.
Credits: 5; Prereq: STA 3023.

ECO 5424 Econometric Models and Methods 1.
Credits: 5

ECO 5425 Econometric Models and Methods 2.
Credits: 5

ECO 5545 Central Government Finance.
Credits: 5; Prereq: ECO 2013-2023.

ECO 5556 State and Local Finance.
Credits: 5; Prereq: ECO 2013-2023.

ECO 5566 Government Budgeting and Financial Administration.
Credits: 3; Prereq: Permission of department.

ECO 5716 Foreign Exchange and International Financial Institutions.
Credits: 3; Prereq: Permission of department.

ECO 6115 Microeconomic Theory 1.
Credits: 5

ECO 6116 Microeconomic Theory 2.
Credits: 5

ECO 6117 Microeconomic Theory 3.
Credits: 5; Prereq: ECO 6116.

ECO 6155 Neo-Classical Economics.
Credits: 5

ECO 6206 Macroeconomic Theory.
Credits: 5

ECO 6207 Macroeconomic Theory 2.
Credits: 5; Prereq: ECO 6206.

ECO 6216 Monetary Economics 1.
Credits: 5

††Grading is on S-U basis only.

ECO 6236 Seminar in Monetary Economics.
Credits: 5

ECO 6257 Stabilization Policy.
Credits: 5

ECO 6266 Monetary Economics 2.
Credits: 5

ECO 6305 The Development of Economic Thought 1.
Credits: 5

ECO 6306 The Development of Economic Thought 2.
Credits: 5

ECO 6315 Present-Day Schools of Economic Thought
Credits: 5

ECO 6405 Mathematical Economics 1.
Credits: 5

ECO 6406 Mathematical Economics 2.
Credits: 5

ECO 6407 Nonstochastic Models.
Credits: 5

ECO 6426 Econometric Methods 1.
Credits: 5

ECO 6427 Econometric Methods 2.
Credits: 5

ECO 6428 Research Seminar in Econometrics.
Credits: 1 to 5

ECO 6433 Macroeconomic Models and the Firm.
Credits: 5

ECO 6435 Problems in Statistics and Business Forecasting.
Credits: 5

ECO 6516 Public Revenue and Distribution.
Credits: 5

ECO 6526 Welfare Economics.
Credits: 5

ECO 6536 Public Expenditures and Collective Decisions.
Credits: 5

ECO 6617 The United States in the World Economy (1783-1960).
Credits: 5

ECO 6626 The American Economy to 1860.
Credits: 5

ECO 6627 The American Economy Since 1860.
Credits: 5

ECO 6706 Theory of International Trade.
Credits: 5

ECO 6717 International Economic Relations.
Credits: 5

ECO 6910 Supervised Research.
Credits: 1 to 5††
Credit not applicable toward degree. May be repeated.

ECO 6940 Supervised Teaching.
Credits: 1 to 5††
Credit not applicable toward degree. May be repeated.

ECO 6971 Master's Research.
Credits: 1 to 15††

ECO 7118 Advanced Microeconomic Theory.
Credits: 5

ECO 7208 Advanced Macroeconomic Theory.
Credits: 5

ECO 7938 Advanced Economic Seminar.
Credits: 1 to 5.

ECO 7980 Doctoral Research.
Credits: 1 to 15††

Economic Problems & Policy

ECP 3000 Economic Issues of the '70s. W.
Credits: 2††
A series of lectures by distinguished visiting economists addressing important and current economic questions of American Society. May be repeated up to a maximum of 4 credits.

ECP 3141 The Economics of Women.
Credits: 3
An analysis of women's labor force activity, past and present, in various economic and political systems. Relationship of women's labor force activity, past and present in various economic and political systems. Relationship of women's role to the operation of the economic concepts involved in the role of women in the marketplace and in the household and family; women's services as public and private goods.

ECP 3203 Labor Problems. F.
Credits: 5; Prereq: ECO 2023.
Insecurity, wages and income, hours, substandard workers; industrial conflict, unionism in its structural and functional aspects, employee representation, employers' associations; labor legislation, settlement of industrial disputes.

ECP 3302 Environmental Economics and Resource Policy. S.
Credits: 4
The relations between environmental quality, resource utilization, and economic institutions and policy. An examination of alternative strategies and policies in solving the problems of environmental quality and resource scarcity.

ECP 3423 Public Utility Economics. W.
Credits: 3; Prereq: ECO 2013-2023.
The nature, place and development of public service corporations; types of public control; valuation and ratemaking regulation of service, accounts, reports, and securities; combinations; public relations, public ownership.

ECP 3433 Transportation Economics. S.
Credits: 5; Prereq: ECO 2023.
General survey of the significance, characteristics and major problems of inter-and intra-city transportation.

ECP 4143 Blacks in the American Economy. W.
Credits: 5
A case study of the Economics of Discrimination; the role played by Blacks in the U.S. economy; with emphasis on contributions and areas of conflict.

ECP 4403 Government Regulation of Business. F, S.
Credits: 5; Prereq: ECO 3100 or ECO 4101 or permission of instructor.
The evolution of economic regulation, chief methods of effectuating governmental regulation; the relationship between government and nonpublic utility monopolies; Federal Trade Commission regulation of competitive practices; a critical appraisal of recent developments in the field of governmental regulation.

ECP 4602 Urban Economics.
Credits: 5; Prereq: ECO 2013-2023 or permission of instructor.
Economic analysis of urbanization and the spatial distribution of economic activities. Analytical tools are developed and applied to urban and regional problems such as: growth and decay, housing, land use, and transportation.

GRADUATE COURSES

ECP 5106 Economics of Human Resource Development.
Credits: 3; Prereq: ECO 3100 or equivalent.

ECP 5205 Economics of the Labor Market.
Credits: 5; Prereq: ECP 3203.

ECP 5606 Special Problems in Urban and Regional Economics.
Credits: 5

ECP 5614 Urban Economics.
Credits: 5; Prereq: ECO 2013-2023 and permission of department.

ECP 5624 Regional Economics.
Credits: 5

ECP 6207 Labor Economics.
Credits: 5

ECP 6216 Organized Labor in the United States.
Credits: 5

ECP 6225 Labor Markets, Manpower and Public Policy.
Credits: 5

ECP 6405 Industrial Organization and Social Control.
Credits: 5

ECP 6407 Problems in Social Control.
Credits: 5

ECP 6426 Economics of Regulated Industries.
Credits: 5

ECP 6536 Health Care Economics 1.
Credits: 5

ECP 6537 Health Care Economics 2.
Credits: 5

ECP 6615 Urban Economics.
Credits: 5

ECP 6625 Regional Economics.
Credits: 5

ECP 6705 Economics of Business Decisions.
Credits: 5

ECP 6905 Individual Work in Economics.
Credits: 1 to 5; maximum credits: 10.

Economic Systems & Development

ECS 3403 Industry and Trade of Latin America. S.
Credits: 3
The industrial importance of several Latin American Countries; the development of the industries in each country, the volume and types of exports and imports as well as the trade practices and customs of these countries.

ECS 4003 Comparative Economic Systems. W.
Credits: 4
The economies of capitalism, socialism, communism, and fascism. The United States, Soviet Russia, England, Nazi Germany, and Fascist Italy are compared on the basis of industrial production, agriculture, exchange, credit and banking, income distribution, the status of labor, and international trade.

ECS 4013 Economic Development. S.
Credits: 4; Prereq: ECO 2013-2023.
Problems and policies of modernization related to economic change and growth in the third world. Empirical and theoretical case studies. Area study and formulation of development projects and programs.

ECS 4203 Economies of East Asia.
Credits: 4; Prereq: ECO 2013-2023 or permission of instructor.
Emphasis on Japan and China. Growth patterns and institutional frameworks compared to those of other countries. Quantitative trends of gross national product and qualitative assessments of industrial organization, labor relations, agricultural technology, and government policies.

ECS 4334 Economic and Social History of Modern Russia and the Soviet Union.
Credits: 4
A survey from Tripoli to the Soviet Union. The development of agriculture, industry, and trade and their institutional manifestations; growth theory and conditions of economic growth.

GRADUATE COURSES

ECS 5005 Comparative Analysis of Economic Systems.
Credits: 4; Prereq: Permission of department.

ECS 5115 Contemporary Economic Problems in Sub-Sahara Africa.
Credits: 3

ECS 5425 Financial Institutions and Fiscal Policies of Selected Latin American Countries.
Credits: 3

ECS 6006 Economic Systems Seminar.
Credits: 5

ECS 6015 Theory of Economic Development.
Credits: 5

ECS 6025 Economic Development Seminar.
Credits: 5

ECS 6405 The Economy of Spanish Latin America.
Credits: 5

ECS 6415 The Economy of Brazil.
Credits: 5

ECS 6426 Financial and Fiscal Institutions of Selected Sub-Saharan Countries.
Credits: 5

Social Sciences — Interdisciplinary

SSI 4601 Masterpieces inthe Social Sciences 1. F.
Credits: 4; Prereq: Senior standing.
For advanced students with background work in the social sciences who have approval of their major adviser and the course chairman. Reading of classics in economics, history, political science, sociology and cultural anthropology.

SSI 4602 Masterpieces in the Social Sciences 2. W.
Credits: 4; Prereq: Senior standing.
The second part of the course SSI 4601-4602-4603.

SSI 4603 Masterpieces in the Social Sciences 3. S.
Credits: 4; Prereq: Senior standing.
The third part of the course SSI 4601-4602-4603.

EDCATIONAL ADMINISTRATION AND SUPERVISION
College of Education

INSTRUCTIONAL STAFF 1979-80

Wattenbarger, J.L., Chairman; Alexander, S.K.; Clark, P.A.; Cole, T.W.; Forgnone, C.J.; Franklin, H.; Hale, J.A.; Kimbrough, R.B.; Longstreth, J.W.; Myers, R.B.; Nickens, J.M.; Nunnery, M.Y.; Sandeen, A.; Mautz, R.

Adult Education

ADE 6260 Organization and Administration of Adult Education.
Credits: 4

Education: Administration

EDA 6061 Educational Organization and Administration.
Credits: 4

EDA 6105 Operations Research in Educational Administration.
Credits: 4; Prereq: EDA 6271 and Statistics course.

EDA 6192 Educational Leadership 1.
Credits: 4

EDA 6195 Educational Leadership 2.
Credits: 4

EDA 6201 Business Affairs in Education
Credits: 4

EDA 6203 Educational Budgeting and Accounting Systems.
Credits: 4

EDA 6222 Administration of School Personnel.
Credits: 4

EDA 6225 Labor Relations in Public Education.
Credits: 4

EDA 6232 Public School Law.
Credits: 4

EDA 6242 Public School Finance.
Credits: 4

EDA 6271 Utilization of Computers in Educational Administration.
Credits: 4

EDA 6300 Principles of Community Education Administration.
Credits: 4

EDA 6306 Therories and Practices of Community Education Administration.
Credits: 4; Prereq: ADE 6300.

EDA 6503 The Principalship.
Credits: 4

EDA 6905 Individual Work.
Credits: 2 to 5. Maximum of 15 credits.

EDA 6910 Supervised Research.
Credits: 1 to 5††

EDA 6931 Special Topics.
Credits: 1 to 5; maximum of 15 credits.

EDA 6935 Problems in School Administration and Supervision.
Credits: 1 to 5; maximum of 15.

EDA 6940 Supervised Teaching.
Credits: 1 to 5††

EDA 6948 Supervised Practice in School Administration.
Credits: 4††; maximum of 8 credits.

EDA 6971 Master's Research.
Credits: 1 to 15††

EDA 7103 Seminar: Theories of Educational Administration.
Credits: 4

EDA 7205 Education Planning.
Credits: 4

EDA 7236 The Law and Higher Education.
Credits: 4

EDA 7244 The Financing of Higher Education.
Credits: 4

EDA 7260 Planning Educational Facilities.
Credits: 4

EDA 7550 Higher Education Administration.
Credits: 4

EDA 7565 Coordination of State Systems of Higher Education.
Credits: 4

EDA 7945 Practicum in Supervision and Administration.
Credits: 1 to 10††; maximum of 15 credits.

††Grading is on S-U basis only.

Descriptions

COUNSELOR EDUCATION

EDA 7980 Doctoral Research.
Credits: 1 to 15††

EDA 7990 Research Design in Educational Administration.
Credits: 3

Education: Exceptional Child — Core competencies

EEX 6511 Administration in Special Education.
Credits: 4

EEX 7535 Seminiar in Administration and Supervision of Special Education.
Credits: 4; maximum 12

EEX 7945 Practicum: Special Education Administration.
Credits: 4 to 12; maximum 12

COUNSELOR EDUCATION DEPARTMENT
College of Education

INSTRUCTIONAL STAFF 1979-80

Wittmer, P.J., Chairperson; Amatea, E.; Avila, D.; Bollet, R. (UCF); Clark, E.B.; Clawson, T.W. (UNF); Cranney, A.G.; Downie, R.D.; Dykes, M.K.; Flesher, C.K.; Goodale, T.G.; Jester, R.E.; Joiner, J.; Kavanaugh, R.R. (UCF); Landsman, T.; Lane, D.; Larson, J.J.; Lee, R.E.; Loesch, L.C.; Lombana, J. (UNF); Lynch, A.Q.; McDavis, R.J.; McMillin, M.; Meek, P.M.; Morgan, J.I.; Myrick, R.D.; Percy, L.E. (UCF); Phillips, T.D.; Pitts, J.H.; Resnick, J.L.; Riker, H.C.; Saxon, J.P.; Schauble, P.G.; Seiler, G.; Sharp, B.L.; Soldwedel, B.J. (UNF); Stripling, R.O.; Tolbert, E.L.; Wolking, W.D.

Undergraduate Assistant Instructors:

Beistle, M.; Denson, R.; Dougan, T.; James, S.H.; Hyman, R.; Ponikvar, C.; Vetter, M.K.; Waters, W.; Woodham, B.D.; Worley, J.

Guidance & Counseling

EGC 3053 Student Development in a University Setting. F, W, S.
Credits: 3; (Grading on S-U basis only.)
Course available to selected undergraduate students only. Examines factors affecting student growth and development in the university setting, current problems facing students, and the use of group processes and leadership training in solving problems and facilitating growth. Course may be repeated with a change of content to a maximum of 9 credits.

EGC 4033 Interpersonal Communication Skills for Teachers.
Credits: 4
The application of basic principles of a helping relationship in the classroom with emphasis on the affective dimensions of teaching. Attention will be given to using basic guidance and counseling strategies and psychological techniques as an aid to instruction.

GRADUATE COURSES

EGC 6005 Principles of Guidance: The Helping Relationship.
Credits: 4

EGC 6045 Counseling with Children.
Credits: 4

EGC 6054 Problems in Personnel Work.
Credits: 3 to 10

EGC 6055 Student Personnel Services in Higher Education.
Credits: 4

††Grading is on S-U basis only.

EGC 6057 The College Community and the Student.
Credits: 4

EGC 6225 Personnel Testing.
Credits: 4

EGC 6317 Vocational Development.
Credits: 4

EGC 6405 Modern Counseling and Personnel Work.
Credits: 4

EGC 6416 Counseling Theory.
Credits: 5

EGC 6426 Counseling in Community Settings.
Credits: 4

EGC 6438 Play Therapy and Play Process With Children.
Credits: 4

EGC 6447 Laboratory in Counseling.
Credits: 1

EGC 6461 Drug Abuse: The Counselor's Role.
Credits: 4

EGC 6463 Counseling Ethnic Minorities.
Credits: 4

EGC 6465 Counseling for Mid-Life and Pre-Retirement.
Credits: 4

EGC 6466 Counseling Needs of Older Persons.
Credits: 4

EGC 6467 Counseling Older Persons, Theories and Techniques.
Credits: 4

EGC 6505 Group Procedures in Guidance and Personnel Work.
Credits: 4

EGC 6545 Group Counseling.
Credits: 4

EGC 6606 Organization and Administration of Guidance and Personnel Programs.
Credits: 4

EGC 6726 Sensitivity Exploratory Laboratory.
Credits: 1

EGC 6905 Individual Work.
Credits: 3 to 6; Maximum of 15 credits.

EGC 6910 Supervised Research.
Credits: 1 to 5††

EGC 6933 Seminar in Professional Development.
Credits: 2

EGC 6938 Special Topics.
Credits: 2 to 5; Maximum of 15 credits.

EGC 6940 Supervised Teaching.
Credits: 1 to 5††

EGC 6971 Masters Research.
Credits: 1 to 15

EGC 7056 Seminar in Higher Education Student Personnel.
Credits: 1 to 2

EGC 7329 Seminar in Career Development.
Credits: 4

EGC 7446 Practicum in Counseling.
Credits: 5; Maximum of 25 credits.

EGC 7485 Seminar in Counseling Research
Credits: 4

EGC 7585 Practicum in Group Counseling.
Credits: 5; Maximum of 15 credits.

EGC 7616 Evaluative Research in Counseling, Guidance, and Personnel Work.
Credits: 5

EGC 7706 Consultation Procedures.
Credits: 4

EGC 7840 Practicum in Student Personnel Work.
Credits: 5; Maximum of 15 credits.

EGC 7852 Practicum in Counseling Older Persons.
Credits: 5

EGC 7890 Internship in Personnel Work.
Credits: 5††; Maximum of 15 credits.

EGC 7937 Seminar in Personnel Work.
Credits: 5

EGC 7980 Doctoral Research.
Credits: 1 to 15††

EDUCATION-FOUNDATIONS
College of Education

INSTRUCTIONAL STAFF 1979-80

Sherman, R.R., Chairman; Algina, J.J.; Andrews, S.D.; Ashton, P.F.; Avila, D.L.; Bengston, J.K.; Brown, B.B.; Busby, W.A.; Crocker, L.M.; Curran, R.L.; Damico, S.B.; Greenwood, G.E.; Guertin, W.H.; Guinagh, B.J.; Jester, R.E.; Koran, M.L.; Newell, J.M.; Newman, A.J.; Olejnik, S.F.; Primack, R.B.; Renner, R.R.; Soar, R.S.; Wass, H.L.; Webb, R.B.; White, A.O.

EDF 3110 Human Growth and Development. F, W, S, SS.
Credits: 5; Prereq: Permission of departmental representative for lower division students.
A life span survey of human growth and development beginning at conception and ending with death. Students will have the opportunity to apply general principles in appropriate educational settings.

EDF 3122 The Young Child. F, W, S, SS.
Credits: 5
Study of growth and development during infancy and early childhood. Laboratory includes observation and participation in nursery school and kindergarten.

EDF 3135 The Adolescent. F, W, S, SS.
Credits: 5; Prereq: Permission of departmental representative for lower division students.
The special role that the adolescent plays in total development. Emphasis is on the psychosocial development of the adolescent in the school.

EDF 3514 History of Education in the United States. F, W, S, SS.
Credits: 5
The development of American schools and major problems in American education, with emphasis upon the relationships among the schools, intellectual movements, and social institutions.

EDF 3604 Social Foundations of Education. F, W, S, SS.
Credits: 5
A study of the educative effects of our social structures, the social values and issues involved in appraising these effects, and the resulting social demands upon the schools.

EDF 3935 Special Topics. F, W, S, SS.
Credits: 1 to 5; Max. 15; Prereq: Consent of department chairman.

EDF 4114 Dynamics of Human Development. F, W, S, SS.
Credits: 5; Prereq: EDF 3110 or equivalent.
The dynamics of personality development with implications for classroom practice. Particular attention will be given to the development of self in childhood and adolescence.

EDF 4210 Educational Psychology. F, W, S, SS.
Credits: 5
An understanding of the applications of psychological principles to the educational process. It treats such topics as individual differences,

principles of learning, transfer of training, and the nature of reasoning.

EDF 4430 Measurement and Evaluation in Education. F, W, S, SS.
Credits: 5
Study is made of the basic principles and methods of measurement and evaluation of pupil learning in schools.

EDF 4542 Philosophy of Education. F, W, S, SS.
Credits: 5
A critical examination is made of various theories and philosophies of education, their relationships to the democratic principle, and their significance to the evolving system of education in the United States.

EDF 4710 Comparative Education. F, W, S, SS.
Credits: 5; Prereq: Permission of departmental representative for lower division students.
A survey of educational problems in contemporary foreign countries with emphasis upon their implications for the United States.

EDF 4780 Education and the World Community. F, W, S, SS.
Credits: 5
The relationship between the school and the student's development of a world-minded disposition, with an examination of curricula implications.

EDF 4905 Individual Work. F, W, S, SS.
Credits: 1 to 5
May be repeated with change of content up to a maximum of 10 credits. For undergraduate students of Upper division status, who wish to explore areas of inquiry in psychological, social, or philosophical foundations of education, or research or measurement, under faculty guidance.

GRADUATE COURSES

EDF 5215 Principles of Learning and Instructional Practice.
Credits: 5

EDF 5431 Measurement and Evaluation in Early Childhood
Credits: 5

EDF 6111L Laboratory in Human Development 1.
Credits: 5

EDF 6112L Laboratory in Human Development 2.
Credits: 5

EDF 6113 Educational Psychology: Human Development.
Credits: 5

EDF 6118 Educational Psychology: Aging and Education.
Credits: 5

EDF 6119 Psycho-Social-Educational Aspects of Death and Dying
Credits: 4

EDF 6211 Educational Psychology: General.
Credits: 5

EDF 6215 Educational Psychology: Learning Theory.
Credits: 5

EDF 6218 Educational Psychology: Problems.
Credits: 5

EDF 6355 Educational Psychology: Personality Dynamics.
Credits: 5

EDF 6401 Educational Statistics.
Credits: 4

EDF 6403 Quantitative Foundations of Educational Research.
Credits: 10

EDF 6436 Introduction Theory of Measurement.
Credits: 5

EDF 6481 Research Methods in Education.
Credits: 5

EDF 6487 Assessment of Classroom Behavior.
Credits: 4

EDF 6520 History of Education.
Credits: 5

EDF 6525 Ancient and Medieval Education.
Credits: 5

EDF 6544 Philosophical Foundations of Education.
Credits: 5

EDF 6606 Socio-Economic Foundations of Education.
Credits: 5

EDF 6630 Educational Sociology.
Credits: 5

EDF 6712 Comparative Education.
Credits: 5

EDF 6720 Education in Latin America.
Credits: 5

EDF 6905 Individual Work.
Credits: 1 to 5. Maximum of 15 credits.

EDF 6910 Supervised Research.
Credits: 1 to 5††

EDF 6933 Seminar on Research on Effective Teaching.
Credits: 4

EDF 6938 Special Topics.
Credits: 2 to 5

EDF 6940 Supervised Teaching.
Credits: 1 to 5††

EDF 6941 Practicum in Educational Research.
Credits: 3 to 12

EDF 6943 Practicum in Educational Psychology.
Credits: 5

EDF 6971 Master's Research.
Credits: 1 to 15††

EDF 7117 Affective Development and Education.
Credits: 5

EDF 7146 Educational Psychology: Cognition in the Educative Process.
Credits: 5

EDF 7149 Educational Implications of Perceptual Psychology.
Credits: 5

EDF 7198 Advanced Educational Psychology: Seminar in Aging and Education.
Credits: 5

EDF 7229 Advanced Educational Psychology: Learning.
Credits: 5

EDF 7405 Advanced Quantitative Foundations of Educational Research.
Credits: 5

EDF 7432 Advanced Psychometric Theory.
Credits: 5

EDF 7486 Methods of Educational Research.
Credits: 4

EDF 7491 Evaluation of Educational Products and Systems.
Credits: 5

EDF 7555 Education and Moral and Spiritual Ideas.
Credits: 5

EDF 7573 Contemporary Educational Theories.
Credits: 5

EDF 7575 Theories of Mind.
Credits: 5

EDF 7584 Educational Classics.
Credits: 5

EDF 7608 School and Society.
Credits: 5

EDF 7639 Research in Educational Sociology.
Credits: 5

EDF 7931 Seminar in Educational Research.
Credits: 4

EDF 7932 Analysis of Educational Research.
Credits: 4

EDF 7934 Seminar in Educational Foundations.
Credits: 5

EDF 7980 Doctoral Research.
Credits: 1 to 15††

SPS 7949 Internship in School Psychology.
Credits:

GENERAL TEACHER EDUCATION
College of Education

INSTRUCTIONAL STAFF 1979-80

Myers, R.B., Chairman; Blume, R.A.; Breivogel, W.F.; George, P.S.; Johnson, S.O.; Kinzer, S.M.; Krogh, S.E.; Lamme, L.L.; Morgan, E.; Oberlin, L.C.; Packer, A.B.; Ross, D.D.; Schuncke, G.M.; Shea, J.J.

Art Education

ARE 3312 Art Experiences with Children. F, SS.
Credits: 4
Directed experiences with children. Planning, teaching, and evaluating art experiences.

GRADUATE COURSES

ARE 5313 Teaching Art in Elementary School 1.
Credits: 4

ARE 5315 Teaching Art in Elementary School 2.
Credits: 4

Education: Early Childhood

EEC 3800 Professional Studies in Early Childhood Education. F, W, S, SS.
Credits: 1 to 20††; maximum of 50 credits.
Includes (a) participation in a continuous professional seminar (b) study of content selected from the substantive areas listed below, and (c) an appropriate field experience. The substantive areas are: art, curriculum, language arts, math, reading, science, social studies, music, human growth and development.

GRADUATE COURSES

EEC 5944 Laboratory in Nursery-Kindergarten Teaching I.
Credits: 4

EEC 5945 Laboratory in Nursery-Kindergarten Teaching II.
Credits: 4

EEC 6051 Early Childhood Education; Background and Concepts.
Credits: 4

EEC 6205 Program Models in Early Childhood Education.
Credits: 4

EEC 6307 Parent Education Programs.
Credits: 4

††Grading is on S-U basis only.

Descriptions

INSTRUCTIONAL LEADERSHIP AND SUPPORT

EEC 6405 Resources for Early Childhood Education.
Credits: 4; maximum of 8 credits.

EEC 6525 Day Care for Young Children.
Credits: 4

EEC 6946 Practicum in Early Childhood Education
Credits: 2 to 8, max. of 16 credits.

EEC 6947 Practicum in Parent Education
Credits: 2 to 8, max. of 16 credits.

Education: Elementary

EDE 3804 Professional Studies in Elementary Education. F, W, S, SS.
Credits: 1 to 20††; maximum of 50 credits.
Includes (a) participation in a continuous professional seminar (b) study of content selected from the substantive areas listed below, and (c) an appropriate field experience. The substantive areas are: art, curriculum, language arts, math, reading, science, social studies, music, human growth and development.

EDE 4203 Elementary School Today. F, W, S, SS.
Credits: 4; Prereq: Admission to Advanced Professional Sequence in Education.
Purposes, organization, and curriculum of the elementary school. Concurrent with EDS 4203 for students in special fields desiring certification K-12.

EDE 4905 Individual Study. F, W, S, SS.
Credits: 2 to 5
Open only to selected undergraduate students who wish to study an individual problem in depth which relates to their preparation as teachers. The project must be approved and supervised by a departmental faculty member.

EDE 4943 Student Teaching in Elementary School. F, W, S.
Credits: 4 to 24††; may be repeated to a maximum of 24; Prereq: See "Admission to Student Teaching in Any Teacher Education Program" and approval of the Elementary staff. Student teaching in selected classrooms of public schools; special seminars and continuous evaluation of teaching experiences.

EDG 4411 Developing School Discipline Skills.
Credits: 1 to 4
A survey of the skills of classroom discipline necessary for teachers in today's elementary, middle and high schools. Emphasis is upon a knowledge of individual and large group management skills. A variety of methods are included.

GRADUATE COURSES

EDE 6225 Practices in Childhood Education.
Credits: 4

EDE 6525 Alternative Models for Classroom Discipline.
Credits: 4

EDE 6541 Individualization of Instruction.
Credits: 4

EDE 6905 Individual Work.
Credits: 1 to 5; max. of 15 credits.

EDE 6910 Supervised Research.
Credits: 1 to 5††

EDE 6932 Special Topics.
Credits: 2 to 5; max. of 15 credits.

EDE 6940 Supervised Teaching.
Credits: 1 to 5††

EDE 6948 Practicum in Elementary Education.
Credits: 4 to 8; max. of 16 credits.

††Grading is on S-U basis only.

EDE 7247 Problems in Childhood Education I.
Credits: 4

EDE 7248 Problems in Childhood Education II.
Credits: 4

EDE 7415 Evaluation in the Elementary School.
Credits: 4

EDE 7935 Seminar in Elementary Education
Credits: 4 to 8, max of 8 credits

Education General

GRADUATE COURSES

EDG 6427 Parent Education for Educators
Credits: 4

EDG 6712 The Education of Culturally Disadvantaged Children and Youth
Credits: 4

EDG 6941 Field Laboratory for Faculty Study of Special Problems.
Credits: 3 to 9

EDG 6971 Master's Research.
Credits: 1 to 15††

EDG 7795 Seminar in the Education of Disadvantaged Children and Youth.
Credits: 4

EDG 7980 Doctoral Research.
Credits: 1 to 15††

Education: Middle School
GRADUATE COURSES

EDM 6005 The Emergent Middle School.
Credits: 4

EDM 6945 Practicum in Middle School Education.
Credits: 4; maximum of 12 credits.

EDM 7935 Seminar in Middle School Education.
Credits: 1 to 4

Education: Secondary
GRADUATE COURSES

ESE 6215 The Secondary School Curriculum.
Credits: 4

ESE 6235 Curriculum Development Laboratory.
Credits: 2 to 5; maximum of 15 credits.

ESE 6385 Supervision of Pre-Service Teachers.
Credits: 2 to 5; maximum of 5.

ESE 6920 Secondary Education Lecture Series.
Credits: 1; maximum of 3 credits.

ESE 7922 Secondary Education Colloquium.
Credits: 1††; maximum of 6 credits.

ESE 7935 Seminar in Secondary Education.
Credits: 2 to 5; maximum of 15 credits.

Education: Supervision

EDS 6351 Supervision of Pre-Service Teachers.
Credits: 2 to 5; maximum of 5 credits.

The following specialized subject area courses may be necessary to fulfill requirements in General Teacher Education program areas.

Language Arts and English Education

LAE 6301 Early Childhood Language Arts and Reading.
Credits: 4

LAE 6319 Language Arts in the Elementary School.
Credits: 4

LAE 6714 Children's Literature in the Childhood Curriculum.
Credits: 4

Mathematics Education

MAE 5318 Teaching Modern Math in Elementary School.
Credits: 4

MAE 6115 Mathematics in the Elementary School.
Credits: 4

Reading Education

RED 5310 Reading in the Primary Grades.
Credits: 4

RED 5355 Reading in the Intermediate Grades.
Credits: 4

Science Education

SCE 5115 Teaching Science in Elementary School.
Credits: 4

SCE 6117 Science Education in the Elementary School
Credits: 4

Social Studies Education.

SSE 6117 Social Studies Education—Elementary School.
Credits: 4

INSTRUCTIONAL LEADERSHIP AND SUPPORT
College of Education

INSTRUCTIONAL STAFF 1979-80

Hass, C.G., Chairman; Blair, T.R.; Crews, R.; Dickerson, L.; Drummond, W.H.; Fillmer, H.T.; Hedges, W.D.; Hensel, J.W.; Lawrence, G.D.; Lewis, A.J.; Morgan, M.K.; Mullally, L.J.; Powell, W.R.; Smith, A.B.; Smith, L.L.; Turner, E.C.; Wenzel, E.L.; Williams, E.L.

Adult Education
GRADUATE COURSES

ADE 5081 Education for Adults.
Credits: 4

ADE 5472 Methods, Materials and Evaluation in Adult Education.
Credits: 4

ADE 6385 Teaching in Adult Education.
Credits: 4

ADE 6671 Adult Education: Progress and Prospect.
Credits: 4

ADE 7282 Adult Education in the Community College. (Junior College).
Credits: 4

ADE 7672 Contemporary Issues in Adult Education.
Credits: 4

Education: General

EDG 4905 Individual Study. F, W, S, SS.
Credits: 2 to 9
Open only to selected undergraduates who wish to study on an individual problem in depth which relates to their preparation as teachers. The

project must be a part of the student's planned program and must be approved by and carried on under the guidance of a faculty member.

GRADUATE COURSES

EDG 6046 Contemporary Issues in Career Education.
Credits: 4

EDG 6250 The School Curriculum.
Credits: 4

EDG 6285 Evaluation in the School Program.
Credits: 4

EDG 6691 Problems in Curriculum and Instruction.
Credits: 3 to 15; maximum of 15 credits.

EDG 6905 Individual Work.
Credits: 2 to 5; maximum of 15 credits.

EDG 6910 Supervised Research.
Credits: 1 to 5††

EDG 6931 Special Topics.
Credits: 2 to 5; maximum of 15 credits.

EDG 6940 Supervised Teaching.
Credits: 1 to 5††

EDG 6941 Field Laboratory for Faculty Study of Special Problems.
Credits: 3 to 9; maximum of 9 credits.

EDG 6971 Master's Research.
Credits: 1 to 15††

EDG 7222 Curriculum: Theory and Research.
Credits: 4

EDG 7235 Programs of Teacher Education.
Credits: 4

EDG 7361 Instruction: Theory and Research.
Credits: 4

EDG 7391 Seminar on Instructional Leadership.
Credits: 4

EDG 7665 Bases of Curriculum and Instruction Theory I.
Credits: 4

EDG 7666 Bases of Curriculum and Instruction Theory II.
Credits: 4

EDG 7699 Seminar: Curriculum and Instruction Leadership in Postsecondary Education.
Credits: 1 to 2; maximum of 8 credits.

EDG 7941 Field Experiences in Curriculum and Instruction.
Credits: 1 to 5; maximum of 15 credits.

EDG 7947 Internship in Teacher Education I.
Credits: 4

EDG 7948 Internship in Teacher Education II.
Credits: 4

EDG 7980 Doctoral Research.
Credits: 1 to 15††

Education: Higher
GRADUATE COURSES

EDH 6053 The Community Junior College in America.
Credits: 4

EDH 6066 American Higher Education.
Credits: 4

EDH 6067 Seminar: International Higher Education.
Credits: 2 to 5

EDH 6305 College and University Teaching.
Credits: 4

EDH 6946 Practicum in College Teaching 2.
Credits: 4

EDH 6947 Practicum in College Teaching 1.
Credits: 4 to 8, maximum of 12 credits.

EDH 7937 Seminar: Curriculum in Higher Education.
Credits: 4

Education: Supervision
GRADUATE COURSE

EDS 6140 Clinical Supervision
Credits: 4

Education: Technology and Media

Education Media and Instructional Design

EME 4102 Audio-Visual Materials of Instruction. F, W, S, SS.
Credits: 4
A general course for teachers at all grade levels. Presents sources and methods of using audio-visual materials of instruction.

EME 4201 Production of Audio-Visual Materials. F, W, S.
Credits: 4; Prereq: EME 4102 or consent of instructor.
The selection, production and evaluation of instructional materials with emphasis upon the production of materials by photographic processes.

GRADUATE COURSES

EME 6052 Educational Technology Readings.
Credits: 4

EME 6105 Selection of Media Center Materials.
Credits: 4

EME 6205 Production Graphics.
Credits: 4

EME 6207 Media Center Production Techniques.
Credits: 4

EME 6325 Programmed Instructional Material.
Credits: 4

EME 6405 Computer Applications in Education.
Credits: 4

EME 6505 Microteaching, Instructional Television and the Classroom.
Credits: 4

EME 6606 Instructional Development.
Credits: 4

EME 6716 Educational Technology Center Operations.
Credits: 4

EME 6805 Cataloging and Classification of Print and Non-Print Materials.
Credits: 4

EME 6807 Organization of Reference Sources and Services.
Credits: 4

EME 6945 Practicum in Educational Media and Instructional Design.
Credits: 4 to 12

EME 7938 Seminar in Educational Media and Instructional Design.
Credits: 4

Education: Vocational/Technical

EVT 3065 Principles of Vocational Education. F, S, SS.
Credits: 4
Theories and principles of vocational education stressing the development, social and economic values, purposes, and scope of different programs of vocational education in our total educational program. A basic course for those preparing to teach vocational subjects.

EVT 3365 Methods in Vocational Education. W, SS.
Credits: 4
General methods of teaching vocational courses.

EVT 4302 Special Methods and Materials for Teaching Vocational-Technical Health Occupations. SS.
Credits: 4
Essentials of teaching in vocational-technical health occupations education programs. Identifying and relating the roles of the health specialist as a teacher; teaching; planning, devising, and structuring learning experiences; implementing strategies; methods for measuring progress.

GRADUATE COURSES

EVT 5166 Technical Education Program Development.
Credits: 4

EVT 6165 Vocational Education and Community Interaction.
Credits: 4

EVT 6167 Program Development in Health Occupations.
Credits: 6

EVT 6170 Technical Education in Post High School Programs.
Credits: 4

EVT 6264 Administration of Vocational Education.
Credits: 4

EVT 6265 Supervision of Vocational Education.
Credits: 4

EVT 6381 Teaching Technical Education.
Credits: 4

EVT 6905 Individual Work in Vocational, Technical and Adult Education.
Credits: 2 to 5; maximum of 15 credits.

EVT 6910 Supervised Research.
Credits: 1 to 5††

EVT 6933 Special Topics.
Credits: 2 to 5, maximum of 15 credits.

EVT 6940 Supervised Teaching.
Credits: 1 to 5††

EVT 6949 Cooperative Education
Credits: 4

EVT 7661 Contemporary Issues in Technical Education.
Credits: 4

EVT 7762 Developing Technical Programs.
Credits: 4

EVT 7930 Seminar in Vocational and Technical Education.
Credits: 4

Reading Education

RED 4147 Techniques of Teaching Reading. F, W, S, SS.
Credits: 4
Basic principles, techniques and materials for a developmental reading program. Emphasis is placed on methods and techniques which provide for differentiated instruction.

††Grading is on S-U basis only.

SPECIAL EDUCATION

GRADUATE COURSES

RED 5310 Reading in the Primary Grades.
Credits: 4

RED 5337 Reading in the Secondary School.
Credits: 4

RED 5355 Reading in the Intermediate Grades.
Credits: 4

RED 6247 Organization and Supervision of School Reading Programs.
Credits: 4

RED 6447 Selection and Production of Reading Materials.
Credits: 4

RED 6448 Technology in Reading Instruction.
Credits: 4

RED 6548 Corrective Reading.
Credits: 4

RED 6646 Problems in Reading.
Credits: 4

RED 6656 Trends in the Teaching of Reading.
Credits: 4

RED 6667 Issues in High School and Adult Reading.
Credits: 4

RED 6805 Practicum in Corrective Reading.
Credits: 4

RED 7747 Analysis of Theory and Research in Reading.
Credits: 4; maximum of 12 credits.

RED 7818 Practicum in Clinical Diagnosis.
Credits: 4

RED 7819 Theory of Clinical Procedures in Reading.
Credits: 4

RED 7848 Clinical Diagnosis.
Credits: 4

RED 7938 Seminar in Reading.
Credits: 4

RED 7947 Internship in Reading.
Credits: 4; maximum of 16 credits.

SPECIAL EDUCATION
College of Education

INSTRUCTIONAL STAFF 1979-80

Algozzine, R.F.; Dykes, M.K.; Forgnone, C., Mercer, C.D.; Nutter, R.E.; Reichard, C.L.; Reid, W.R.; Schmid, R.E.; Schwartz, S.E.; Whorton, J.E.; Wolking, W.D.

Education: Emotional Disorders

EED 4011 Educational Aspects of Behavioral Problems in Children and Youth. F, W, S.
Credits: 3 to 5; Prereq: EEX 3010.
An analysis of the prevailing classification systems, etiologies, characteristics and identification procedures relating to behavioral disorders in children and youth. Consideration is given to the emerging trends in the education of children and youth with behavioral problems. H grading.

GRADUATE COURSES

EED 6221 Educational Aspects of Behavioral Problems in Children and Youth.
Credits: 3 to 5

††Grading is on S-U basis only.

EED 6225 Educational Theories and Practices for Children with Behavioral Problems.
Credits: 3 to 5

EED 6241 Educational Programming for Children with Behavioral Problems.
Credits: 3 to 5

EED 6245 Community Resources for Exceptional Children and Youth.
Credits: 2

EED 6943 Practicum in Special Education: Emotional Disturbance.
Credits: 4 to 12

EED 7930 Seminar: Program Development for Children with Behavioral Disorders.
Credits: 4

EED 7936 Seminar: Education of the Emotionally Disturbed Child.
Credits: 4

Education: Exceptional Child—Core Competencies

EEX 3010 Principles and Practices for Teaching Exceptional Children. F, W, S, SS.
Credits: 4
Incidence, causes, diagnosis, agencies for referral and recommended teaching procedures for the types of exceptional children found in public schools are considered.

EEX 3040 The Exceptional Child in the Mainstream of Education. F, S.
Credits: 2
Characteristics of, identification of, and teaching practices for exceptional children who are in the mainstream of education. Designed for general education majors, both elementary and secondary.

EEX 3220 Evaluation and Management of Special Education Students. F, S, SS.
Credits: 5
Study of measures and procedures used in evaluating students and of the skills of behavior management in special education.

EEX 4861 Student Teaching-Special Education. F, W, S.
Credits: 16††; maximum of 32 credits; Prereq: See "Admission to Student Teaching in Any Teacher Education Program," and approval of Special Education Staff.
Student teaching in selected classrooms and other situations for the education of the mentally retarded. Seminars and continuous evaluation of teaching experiences. No other courses may be taken during the student teaching quarter.

EEX 4905 Individual Study. F, W, S, SS.
Credits: 2 to 9
Open only to selected undergraduate students who wish to study an individual problem in depth which relates to their preparation as special education teachers. The project must be approved and supervised by a departmental faculty member.

GRADUATE COURSES

EEX 6045 The Exceptional Child in the Mainstream of Education.
Credits: 4

EEX 6051 Teaching Exceptional Children.
Credits: 4

EEX 6059 The Handiapped Student at the Secondary Level.
Credits: 4

EEX 6248 Educational Programming for the Handicapped Student at the Secondary Level
Credits: 4

EEX 6511 Administration in Special Education.
Credits: 4

EEX 6521 Organization and Program Planning in Special Education.
Credits: 4

EEX 6863 Supervised Practice in Special Education.
Credits: 16

EEX 6883 Clinical Teaching: Basic Academic Skills.
Credits: 5

EEX 6905 Individual Work.
Credits: 2 to 5

EEX 6910 Supervised Research
Credits: 2 to 5

EEX 6936 Special Topics.
Credits: 2 to 5

EEX 6940 Supervised Teaching.
Credits: 1 to 5††

EEX 7535 Seminar in Administration and Supervision of Special Education.
Credits: 4; max. of 12.

EEX 7865 Internship: Special Education.
Credits: 4 to 16

EEX 7930 Seminar in Special Education.
Credits: 4

EEX 7932 Seminar: Current Research in Special Education.
Credits: 4

EEX 7934 Seminar: Trends in Special Education.
Credits: 4

EEX 7945 Practicum: Special Education Administration.
Credits: 4 to 12

EEX 7980 Doctoral Research.
Credits: 1 to 15††

Education: Exceptional Child—Gifted
GRADUATE COURSES

EGI 6051 Education of the Gifted Child.
Credits: 4

EGI 6245 Program Development for the Gifted.
Credits: 4

Education: Mental Retardation

EMR 3011 The Mentally Retarded Child. F, W, S, SS.
Credits: 4; Prereq: EEX 3010 or consent of the instructor.
Educational, psychological, sociological, and medical aspects of children and adolescents with varying degrees of retardation.

EMR 3800L Practicum in Mental Retardation. F, W, S, SS.
Credits: 4
Open only to majors in Special Education. Students are assigned to work with mentally retarded students in classrooms, agencies, or institutions. Students are supervised and attend seminars relating to community and school services for mentally retarded persons.

EMR 4202 Curriculum, Methods, and Materials for Teaching Retarded Students. F, W, S.
Credits: 5; Prereq: EEX 3010, EMR 3011, EEX 3220.
Consideration is given to development of curriculum for EMR students, early through high school. Basic principles, techniques and materials are discussed which relate to effective teaching of EMR students.

EMR 4214 Curriculum for the Vocational Mentally Retarded. F, S.
Credits: 5; Prereq: EEX 3010 or equivalent.
The development of curriculum and methodological considerations for the vocational educable mentally retarded.

EMR 4330 Methods and Materials for the Severely Retarded.
Credits: 5; Prereq: EEX 3010 or equivalent.
Methods and materials for severly retarded children, youth and adults.

GRADUATE COURSES

EMR 6361 Education of the Mentally Retarded.
Credits: 4

EMR 6801 Practicum in Special Education: Mental Retardation.
Credits: 4 to 12

EMR 7936 Seminar: Mental Retardation.
Credits: 4

Education: Physical & Multiple Handicapped

EPH 4033 Issues in the Education of Children with Multiple Handicaps. W, S.
Credits: 4
Educational procedures, programming strategies, and curriculum development required for developmentally young children and youth with physical impairment including visual, auditory, medical, and behavioral problems.

GRADUATE COURSES

EPH 6185 Laboratory in Special Education Assessments of Severely Handicapped Children.
Credits: 3 to 5

EPH 6305 Educational Management of Physically Impaired/Multiple Handicapped.
Credits: 3 to 5

EPH 6395 Physiological Aspects of Physical/Multiple Handicaps.
Credits: 2 to 5

EPH 6411 Issues in the Education of Physically Impaired Multi-Handicapped Children.
Credits: 2 to 5

EPH 6942 Practicum in Special Education: Physically Impaired/Multiple Handicapped.
Credits: 4 to 12.

EPH 7936 Seminar: Education of the Severely Physically Impaired/Multiple Handicapped Child in residential institutions.
Credits: 2 to 4

EPH 7937 Seminar: Education of Physically Impaired/Multiple Handicapped Child in Public Schools.
Credits: 2 to 4

Education: Specific Learning Disabilities
GRADUATE COURSES

ELD 6111 Direct Assessment of Handicapped Learners.
Credits: 3

ELD 6112 Foundations in the Field of Specific Learning Disabilities.
Credits: 4

ELD 6211 Foundation of Clinical Teaching Behavioral Analysis.
Credits: 4

ELD 6213 Behavior Analysis Applied to Developmental Deficits.
Credits: 4

ELD 6241 Program Designs for Children with Specific Learning Disabilities.
Credits: 4

ELD 6936 Seminar: Current Literature in Specific Learning Disabilities.
Credits: 1 to 2

ELD 6937 Seminar: Early Identification and Remediation of Specific Learning Disabilities.
Credits: 4

ELD 6944 Practicum in Special Education: Specific Learning Disabilities.
Credits: 4 to 16

ELD 6947 Laboratory: Evaluation in Special Education.
Credits: 3 to 6

ELD 7938 Seminar: Advanced Topics in Learning Disorders.
Credits: 4 to 12

SUBJECT SPECIALIZATION
TEACHER EDUCATION
College of Education

INSTRUCTIONAL STAFF 1979-80

Todd, E.A., Chairman; Bolduc, E.J.; Bernard, D.H.; Carr, G.D.; Casteel, J.D.; Ellis, B.R.; Ferguson, R.C.; Flannery, M.E.; Gregory, J.W.; Hallman, C.L.; Henderson, C.A.; Henderson, L.; Hipple, T.W.; Hunter, E.F.; Kantowski, E.L.; Koran, J.J.; McGuire, V.; Newcomb, A.P.; Rowe, M.B.; Timmerman, M.E.; Wright, R.G.

Art Education

ARE 3312 Art Experiences with Children. SS.
Credits: 4
Directed experiences with children. Planning, teaching, and evaluating art experiences.

ARE 4242 Professional Studies in Art Education 1. F, S.
Credits: 5
Basic introduction to content in the field of Art Education. Requirements include appropriate field experiences, media workshops and participation in a continuing professional seminar. These studies cover the areas of: A. Foundations of Art Education, and B. Art Education Curriculum.

ARE 4243 Professional Studies in Art Education 2. W, SS.
Credits: 5
Study of content in the field of Art Education. Requirements include appropriate field experience, completion of specified competencies, and participation on a continuing professional seminar. These studies cover the areas of: A. Foundations of Art Education and B. Art Education Curriculum.

ARE 4244 Professional Studies in Art Education 3. F, S.
Credits: 6
Study of content in the field of Art Education. Requirements include appropriate field experience, completion of specified competencies, and participation in a continuing professional seminar. These studies cover the areas of: A. Foundations of Art Education and B. Art Education Curriculum.

ART 3100C Crafts. F, W, S, SS.
Credits: 4
Exploration in craft media such as leather clay, reed, plastic, wood, and native materials. Attention directed toward creative design and function as well as craftsmanship. This course may be repeated once for credit.

EIA 3280C Woodworking. F, W, S, SS.
Credits: 4
Creative design, construction planning and execution, application of common tool techniques, wood finishing and related information. This course may be repeated once for credit.

EIA 3291C Metalcraft. S, SS.
Credits: 4
Creative experiences in metalcraft, tooling, etching, painting, tapping, engraving, enamel and silver jewelry. Emphasis upon techniques suitable for public school and therapy purposes. This course may be repeated once for credit.

GRADUATE COURSES

ARE 5313 Teaching Art in Elementary School 1.
Credits: 4

ARE 5315 Teaching Art in Elementary School 2.
Credits: 4

ARE 6047 Foundations of Art Education.
Credits: 4

ARE 6141 Aesthetic Experience.
Credits: 4

ARE 6148 Curriculum in Art Education.
Credits: 4

ARE 6388 The Teaching of Art in Higher Education.
Credits: 4

ARE 6648 Art Education and Related Disciplines.
Credits: 4

Business Teacher Education

GRADUATE COURSES

BTE 6371 Methods and Materials for Block-Time Instruction in Office Education.
Credits: 4

BTE 6373 Materials and Methods of Teaching General Business.
Credits: 4

BTE 6378 Teaching Bookkeeping and Consumer Business Subjects.
Credits: 4

BTE 6379 Teaching Secretarial Studies.
Credits: 4

BTE 6671 Problems in Business Education.
Credits: 4

BTE 6935 Research Seminar in Business Education.
Credits: 4

BTE 6948 Seminar and Work Experience in Business Education.
Credits: 8

Economic Education

ECO 4070 Economic/Consumer Education. F, S.
Credits: 4
Principles of economic/consumer education with methodology and materials for teaching these principles. This course will focus on economic analysis and the application of contemporary economics in the curriculum.

GRADUATE COURSES

ECO 6075 Economics/Consumer Education
Credits: 4

Education: Exceptional Child-Care Competencies

EEX 4141 Methods and Materials for Speech Therapy. W.
Credits: 3; Prereq: EDF 3110, ESE 4011, EDE 4203.
Presents methods for working as a speech therapist in public schools.

Education: General
GRADUATE COURSES

EDG 6910 Supervised Research.
Credits: 1 to 5††

EDG 6971 Master's Research.
Credits: 1 to 15††

††Grading is on S-U basis only.

SUBJECT SPECIALIZATION

EDG 7980 Doctoral Research.
Credits: 1 to 15††

English Education and Language Arts

LAE 4335 Methods and Materials for Language Arts. F, W, SS.
Credits: 5; Prereq: EDF 3135 or 4210, ESE 4011; ESE 4210 taken concurrently.
Presents methods of teaching language arts in secondary schools.

GRADUATE COURSES

LAE 6225 Teaching Literature in the Middle Schools
Credits: 4

LAE 6237 Teaching Adolescent Literature in the Secondary School
Credits: 4

LAE 6265 Teaching Composition Skills
Credits: 4

LAE 6301 Early Childhood Language Arts and Reading.
Credits: 4

LAE 6319 Language Arts in the Elementary School.
Credits: 4

LAE 6365 Language Arts: Language and Composition.
Credits: 4

LAE 6366 Language Arts: Literature.
Credits: 4

LAE 6714 Children's Literature in the Childhood Curriculum.
Credits: 4

LAE 6945 Practicum in Secondary School English.
Credits: 4

LAE 7936 Seminar in English Language Arts.
Credits: 4

Foreign Language Education

FLE 4333 Methods and Materials for Foreign Language. F.
Credits: 5; Prereq: EDF 3135 or 4210, ESE 4011; ESE 4210 taken concurrently.
Presents methods and materials of foreign language instruction, with emphasis on the newer techniques and materials.

GRADUATE COURSES

FLE 6165 Bilingual Bicultural Education
Credits: 4

FLE 6337 Problems of Foreign Language Instruction in Secondary Schools.
Credits: 4

FLE 6946 Practicum in Teaching Secondary School Foreign Language.
Credits: 4

FLE 7148 Problems and Readings in Bilingual Biculture Education
Credits: 2; max: 12

Mathematics Education

MAE 4330 Methods and Materials for Mathematics. F, W, SS.
Credits: 5; Prereq: EDF 3135 or ESE 4011; ESE 4210 taken concurrently.
Presents methods of teaching mathematics in secondary schools.

††Grading is on S-U basis only.

MAE 4350 Methods in Teaching Mathematics. F, W, S, SS.
Credits: 4
Methods and materials for teaching the basic skills and concepts of arithmetic, informal geometry, measurement and problem solving. Not available to undergraduate elementary and early childhood majors.

GRADUATE COURSES

MAE 5318 Teaching Modern Math in Elementary School.
Credits: 4

MAE 6115 Mathematics in the Elementary School.
Credits: 4

MAE 6138 Mathematics in the Secondary School.
Credits: 4

MAE 6345 Teacher Verbal Behavior in the Mathematics Classroom
Credits: 4

MAE 6512 Laboratory in Diagnosing Mathematics.
Credits: 4 to 8; maximum of 8.

MAE 6615 Individualizing Instruction in Elementary Mathematics.
Credits: 4

MAE 6636C Laboratory Approach to Mathematics.
Credits: 3 to 6

MAE 6947 Practicum in Teaching Secondary School Mathematics.
Credits: 4

Music Education
GRADUATE COURSES

MUE 6080 Foundations of Music Education.
Credits: 4

MUE 6146 Band Music in the Public Schools.
Credits: 4

MUE 6147 Orchestra Music in the Public Schools.
Credits: 4

MUE 6406 Music in the Elementary School.
Credits: 4

MUE 6416 Vocal Music in the Secondary School.
Credits: 4

MUE 7938 Music Education Seminar.
Credits: 4

Science Education

SCE 4330 Methods and Materials for Science. W, SS.
Credits: 5; Prereq: EDF 3135 or 4210, ESE 4011; ESE 4210 taken concurrently.
Presents methods of teaching science in secondary schools.

GRADUATE COURSES

SCE 5115 Teaching Science in Elementary School.
Credits: 4

SCE 6117 Science Education in the Elementary School.
Credits: 4

SCE 6140 The Teaching of Special Science Programs.
Credits: 3 to 6; maximum of 6 credits.

SCE 6237 Science in the Secondary School.
Credits: 4

SCE 6736 Evaluating Science Curricula in Secondary Schools.
Credits: 4

SCE 6947 Practicum in Secondary Science Curriculum.
Credits: 4

SCE 7238 Learning and Instruction in Secondary School Science.
Credits: 4

SCE 7933 Science Education Seminar.
Credits: 4

SCE 7949 Practicum in Learning and Instruction in Secondary School Science.
Credits: 4

Secondary Education

ESE 3034 Current Problems and Issues in Secondary Education. SS.
Credits: 1; Prereq: Sophomore standing.
Current problems and issues presented by departmental faculty. May be repeated with change of content up to a maximum of 3 credits.

ESE 3932 Selected Topics In Secondary Education. F, W, S, SS.
Credits: 1 to 3; Prereq: Consent of the Department.
Introduction to various secondary curricula areas: English, Foreign Language, Mathematics, Science, Social Studies. The student will examine in his subject field current research and will participate in supervised field experiences. May be repeated for a maximum of 12 credits.

ESE 3940 Laboratory Experience in Secondary School Instruction. F, W, S, SS.
Credits: 2 to 5
Participation in the school laboratory situations with weekly conference or seminar on instructional procedures and curriculum planning to be arranged in lieu of regular class schedule. May be repeated with a change of content to a maximum of 10 credits.

ESE 4011 The Secondary School Today. F, W, S, SS.
Credits: 5; Prereq: Appropriate Psychological Foundations Course and Admission to Advanced Professional Sequence.
Purposes and organization of the secondary school curriculum, guidance program, application of learning theory, student activities, evaluating and reporting student progress. Application must be made at least one month in advance of registration in Office of Undergraduate Studies, Room 134 Norman Hall. Field experiences may be required of students.

ESE 4210 Secondary School Curriculum and Organization. F, W, SS.
Credits: 4; Prereq: EDF 3135, ESE 4011; taken concurrently with appropriate methods course.
Emphasis on: (1) planning, (2) classroom management, (3) motivation, and (4) evaluation. Field experiences may be required of students.

ESE 4905 Individual Study. F, W, S, SS.
Credits: 2 to 5; may be repeated with a change of content up to a maximum of 10 credits.
Open only to selected undergraduate students who wish to study an individual problem in depth which relates to their preparation as secondary education teachers. The project must be approved and supervised by a departmental faculty member.

ESE 4943 Student Teaching in the Secondary School. F, W, S, SS.
Credits: 4 to 16††. Students in the College of Physical Education, Health and Recreation take this course for a letter grade. May repeat to a maximum of 16; Prereq: See "Admission to Student Teaching in Any Teacher Education Program," and approval of the Secondary Education staff.
Student teaching in selected classrooms, special seminars, and continuous evaluation of teaching experiences. No other courses may be taken during the student teaching quarter when the student is registered for 16 quarter hours.

GRADUATE COURSES

ESE 6385 Supervision of Pre-Service Teachers.
Credits: 2 to 5

ESE 6415 Evaluation in the Secondary School Program.
Credits: 4

ESE 6905 Individual Work
Credits: 2 to 5; maximum of 15 credits.

ESE 6920 Secondary Education Lecture Series.
Credits: 1; maximum of 3 credits.

ESE 6939 Special Topics.
Credits: 2 to 5; maximum of 15 credits.

ESE 6940 Supervised Teaching.
Credits: 1 to 5††

ESE 7922 Secondary Education Colloquium.
Credits: 1††; maximum of 6 credits.

ESE 7935 Seminar in Secondary Education.
Credits: 2 to 5; maximum of 15 credits.

Social Studies Education

SSE 4333 Methods and Materials for Social Studies. F, W, S, SS.
Credits: 5; Prereq: EDF 3135 or 4210, ESE 4011; ESE 4210 taken concurrently.
Presents methods of teaching social studies in secondary schools.

GRADUATE COURSES

EDS 6100 Group Process in Education
Credits: 4

EDS 6925 Workshop in Human Relations
Credits: 3 to 9

SSE 6046 Perspectives in Social Studies Education
Credits: 4

SSE 6117 Social Studies Education — Elementary School.
Credits: 4

SSE 6133 Social Studies in the Secondary School.
Credits: 4

SSE 6377C Practicum in Secondary Social Studies Instruction.
Credits: 4

SSE 6398 Analysis and Evaluation of Social Studies Instruction
Credits: 4

SSE 7939 Seminar in Social Studies.
Credits: 4

Speech Education

SED 4335 The Teaching of Speech in the Secondary Schools. F, S.
Credits: 4; Prereq: 8 hours of Speech.
A practical philosophy of speech education as it functions at the secondary school level; methods of training in the speech arts.

ELECTRICAL ENGINEERING
College of Engineering

INSTRUCTIONAL STAFF 1979-1980

Cherrington, B.E., Chairman; Allen, E.J.; Bailey, R.L.; Barlett, M.C.; Beasley, W.H.; Boykin, W.H.; Bullock, T.E.; Chen, W.H.; Chenette, E.R.; Childers, D.G.; Couch, L.W.; Dominiak, K.E.; Darveniza, M.; Doty K.L.; Elgerd, O.I.; Forsman, M.E., (Emeritus); Fossom, J.G.; Green, A.E.S.; Johnson, R.C.; Kaiser, W.F.; Kalman, R.E.; Kundel, T. (Emeritus); Latour, M.H.; Li, S.S.; Lindholm, F.A.; MacQuigg, D.R.; Neugroschel, A.; Nevis, A.H.; Nickelson, W.R.D. (Emeritus); O'Malley, J.R.; Paige, A.; Pepinsky, R.; Popov, V.M.; Priem, E.S. (Emeritus); Ramey, R.A.; Ryder, J.D.; Sashoff, S.P. (Emeritus); Shaffer, C.V.; Smallwood, M.H. (Emeritus); Smith, E.F. (Emeritus); Smith, J.R.; Su, S.Y.W.; Sullivan R.L.; Sutherland, A.D.; Teas, D.C.; Tou, J.T.; Uman, M.A.; van der Ziel, A.; van Vliet, K.; Warren, M.E.; Watson, J.K.; Watterson, J.W.; Wing, A.H. (Emeritus); Yii, R.; Zahn, M.; Zetrouer, W.R. (Emeritus).

Engineering: Electrical

EEL 3001 Introduction to Electrical Engineering. F, W, S, SS.
Credits: 5; Prereq: PHY 2041; Coreq: MAP 3302 or EGM 3311.
An introduction to systems, circuits and devices in electrical engineering.

EEL 3001L Electrical Engineering Laboratory 1. F, W, S, SS.
Credits: 1; Coreq: EEL 3001.
Introductory electrical engineering laboratory in the electric instrumentation, devices, and systems.

EEL 3003 Elements of Electrical Engineering. F, W, S.
Credits: 5; Prereq: MAC 3313, PHY 2041.
An introduction to the theory and practice of electrical engineering for students not majoring in electrical engineering; circuits, machines, electronics, and systems.

EEL 3111 Circuits 1. F, W, S, SS.
Credits: 3; Prereq: EEL 3001.
Basic analysis of electric circuits.

EEL 3112 Circuits 2. F, W, S, SS.
Credits: 3; Prereq: EEL 3111.
Continuation of EEL 3111.

EEL 3135 Signals and Systems. F, W, S, SS.
Credits: 4; Prereq: EEL 3111.
Convolution, applications of Fourier and Laplace transforms, filters, noise, and state variable methods.

EEL 3211 Elements of Electric Energy Engineering 1. F, W, SS.
Credits: 3; Prereq: EEL 3001.
Rotating energy converters and transformers. Theory and design considerations. Simple system applications.

EEL 3212 Elements of Electric Energy Engineering 2. F, W, S.
Credits: 3; Prereq: EEL 3211; Coreq: EEL 4201L.
Static energy converters. Elements of bulk energy system operation under steady-state conditions.

EEL 3218 Electric Energy Engineering. F, S.
Credits: 3; Prereq: EEL 3001.
An introduction to electric energy engineering for students not majoring in electrical engineering. Magnetics, DC machines, transformers, AC motors.

EEL 3303 Electronics 1. F, W, S, SS.
Credits: 4; Prereq: EEL 3001.
Electronic devices.

EEL 3303L Electronics Laboratory 1. F, W, S, SS.
Credits: 1; Prereq: EEL 3001L; Coreq: EEL 3303.
Electronic instrumentation devices and systems.

EEL 3304 Elecronics 2. F, W, S, SS.
Credits: 5; Prereq: EEL 3001.
Electronic circuits.

EEL 3368 Electronics Systems and Instrumentation. F, S.
Credits: 4; Prereq: EEL 3001.
Fundamental techniques of electronic instrumentation and control systems. For nonelectrical engineering majors.

EEL 3368L Electrical Engineering for the Behavioral and Biological Sciences.
Credits: 5; Prereq: Consent of the instructor.
Introduction to electrical circuits and instrumentation.

EEL 3396 Introduction to Physical Electronics. F, S.
Credits: 4; Prereq: EEL 3303.
Introduction to the principles of semiconductor electron device operation.

EEL 3472 Electromagnetic Fields and Applications 1. F, S.
Credits: 4; Prereq: EEL 3001, MAC 3314.
Fundamentals of electromagnetic fields and waves.

EEL 3473 Electromagnetic Fields and Applications 2. W, SS.
Credits: 3; Prereq: EEL 3472.
Continuation of EEL 3472.

EEL 3701 Introduction to Computer Engineering. F, W, S, SS.
Credits: 4
An overview of logic design, computer organization and assembly language programming. Special emphasis on LSI devices.

EEL 4201L Electrical Energy Conversion Laboratory. F, W, S.
Credits: 1; Coreq: EEL 3212.
Electric conversion, devices, and systems.

EEL 4204 The Unified Theory of Electrical Machines 1.
Credits: 3; Prereq: EEL 3212.

EEL 4205 The Unified Theory of Electrical Machines 2.
Credits: 3; Prereq: EEL 4204.

EEL 4213 Electric Energy Systems 1. F.
Credits: 3; Prereq: EEL 3212.
Primary energy resources. Economical and ecological factors affecting energy conversion. Basic system requirements. Systems modeling of synchronous machines, transformers and transmission lines.

EEL 4214 Electric Energy Systems 2. W.
Credits: 3; Prereq: EEL 4213.
System operation under balanced steady-state conditions. Load flow analysis and control. Optimum operating conditions. Computational considerations.

EEL 4215 Electric Energy Systems 3. S.
Credits: 3; Prereq: EEL 4214.
System under fault conditions. Ultra-fast system transients. Medium-fast transients and short-circuit analysis Electro-mechanical transients. Computational considerations.

EEL 4304L Electronics Laboratory 2. F, W, S, SS.
Credits: 1; Prereq: EEL 3303L; Coreq: EEL 3304.
Electronic instrumentation, devices and systems.

EEL 4310C Nonlinear Electronic Circuits. F, SS.
Credits: 4; Prereq: EEL 3304.
Design of nonlinear shaping circuits. Counting and gating circuits. Laboratory.

EEL 4314 Integrated Circuit Design. F.
Credits: 4; Prereq: EEL 3396 and EEL 4331C.
Principles and practices of integrated circuit design with emphasis on large scale CMOS. Each student will design a small system or circuit to be included on the class chip.

EEL 4331C Microelectronics. F, S.
Credits: 4; Prereq: EEL 3396.
Principles of microelectronics. Laboratory.

EEL 4351 Principles of Solid-State Devices and Practice 1. W.
Credits: 3
Physical principles of modern solid-state devices and their practical applications.

EEL 4352 Principles of Solid-State Devices and Practice 2. S.
Credits: 3; Prereq: EEL 4351.
Continuation of EEL 4351.

††Grading is on S-U basis only.

Descriptions

ELECTRICAL ENGINEERING

EEL 4373 Transistor Electronics.
Credits: 3; Prereq: or Coreq: Undergraduate course in electronics or consent of the instructor.
The electrical characteristics and circuit application of transistors.

EEL 4373L Transistor Electronics Laboratory.
Credits: 1; Coreq: EEL 4373.
The laboratory for the corequisite EEL 4373, Transistor Electronics.

EEL 4374 Linear Amplifier Design. F, S.
Credits: 4; Prereq: EEL 3303 and EEL 3304.
Analysis and design of linear amplifiers including operational, high frequency, broadband, and feedback amplifiers.

EEL 4431 Microwave Circuits and Technology.
Credits: 3; Prereq: EEL 3472.

EEL 4436 Microwave Techniques. F, S.
Credits: 4; Prereq: EEL 3473; Coreq: EEL 4436L.
Waveguides and resonant cavities. Methods of generating, transmitting, and receiving microwaves.

EEL 4436L Microwave Laboratory. F, S.
Credits: 1; Coreq: EEL 4436.
The laboratory for the corequisite course EEL 4436, Microwave Techniques.

EEL 4440C Electro-Optical Devices & Systems.
Credits: 3; Prereq: EEL 3303, EEL 3472.
Laser oscillators, amplifiers, modulators, detectors. Interfacing. System optimization. Applications: integrated optics, remote sensing, etc. Laboratory.

EEL 4461 Antenna Systems. W.
Credits: 4; Prereq: EEL 3473 or equivalent.
Electromagnetic field theory and its application to antenna design.

EEL 4479 Applications of Magnetism. F, S.
Credits: 4
Properties and processes in magnetic materials are introduced through examples such as inductors, pulse transformers, memory elements, microwave components.

EEL 4514 Communications Systems and Components. F, S.
Credits: 4; Prereq: EEL 3135.
Theory of communications, and applications to radio, television, radar and telemetry systems.

EEL 4514L Communication Laboratory. F, W, S, SS.
Credits: 1; Prereq: EEL 4304L; Coreq: EEL 4514.
Communication circuits and radio frequency instruments, devices, and measurements.

EEL 4516 Noise in Devices and Communication Systems. W.
Credits: 5; Prereq: EEL 4514.
Origin, characterization, and measurement of random noise. Calculation of signal-to-noise ratios and probability of errors for communication systems.

EEL 4657 Linear Control Systems. F, S.
Credits: 4; Prereq: EEL 3135 or consent of instructor.
Theory and design of linear control systems.

EEL 4712C Digital Computer Principles 1. F, S.
Credits: 5; Prereq: EEL 3701.
Introduction to logic design with electronic digital integrated circuits. Applied switching algebra. Sequential circuits. Laboratory.

EEL 4713C Digital Computer Principles 2. W, SS.
Credits: 5; Prereq: EEL 3701.
The use of electronic digital modules to design computers. Organization and operation of computers. Hardware/software tradeoffs. Design of computer interfacing. Laboratory.

††Grading is on S-U basis only.

EEL 4714C Digital Computer Principles 3. F, S.
Credits: 5; Prereq: EEL 3701.
Hardware/software tradeoffs in computer design. Minicomputer operation and programming. Software design for minicomputer systems and interfacing. Laboratory.

EEL 4744C Microcomputer Hardware and Software Components. W, SS.
Credits: 5; Prereq: EEL 3304, EEL 3701.
Functional behavior of microprocessor, memory, and peripheral support integrated circuit hardware. Microcomputer system and development software.

EEL 4905 Individual Problems in Electrical Engineering. F, W, S, SS.
Credits: 1 to 5; Prereq: Recommendation of Department Chairman.
Selected problems or projects in the student's major field of engineering study. May be repeated with a change of content up to a maximum of 12 credits.

EEL 4914L Electrical Engineering Projects Laboratory. F, W, S, SS.
Credits: 1; Prereq: EEL 4304L, EEL 4201L, or EEL 4514L.
This is an advanced undergraduate laboratory involving engineering applications in the various areas of electrical engineering. May be repeated for additional credit.

EEL 4930C Special Topics in Electrical Engineering. F, W, S, SS.
Credits: 1 to 6; Prereq: Permission of instructor.
Special courses covering selected topics in electrical engineering. May be repeated with change of content up to a maximum of 6 credits.

EEL 4941 Creative Problem Solving. F, S.
Credits: 3
Development of a problem solving approach for complex electrical engineering problems with emphasis on creative techniques and the writing of meaningful engineering reports.

EEL 4949 Co-op Work Experience. F, W, S, SS.
Credits: 1††; Prereq: Freshman year.
Practical co-op engineering work under approved industrial supervision.

GRADUATE COURSES

COP 5630 Software Engineering.
Credits: 4

EEL 5134 Analysis of Nonlinear Systems.
Credits: 3

EEL 5161 Computational Techniques for Circuit Analysis.
Credits: 4

EEL 5182 State Variable Methods in Linear Systems.
Credits: 4

EEL 5370 Applied Electronics.
Credits: 4

EEL 5485 Applied Magnetics.
Credits: 4

EEL 5544 Noise in Linear Systems.
Credits: 5

EEL 5562 Pictorial Information Processing Principles.
Credits: 3

EEL 5718 Computer Communications.
Credits: 3

EEL 5719C Digital Filtering.
Credits: 5

EEL 5761 Hardware/Software Interaction: Time Sharing System.
Credits: 4

EEL 5768 Principles of Computer Interfacing.
Credits: 3

EEL 5821 Principles of Information Science. W.
Credits: 3

EEL 5905 Individual Work.
Credits: 1 to 6

EEL 5934 Special Topics in Electrical Engineering.
Credits: 1 to 4

EEL 6156 Advanced Circuit Analysis.
Credits: 3

EEL 6162 Computer-Aided Circuit Design.
Credits: 4

EEL 6170 Elements of Linear Systems.
Credits: 3

EEL 6171 Advanced System Theory 1.
Credits: 4

EEL 6172 Advanced System Theory 2.
Credits: 3

EEL 6264 Advanced Electric Energy Systems 1.
Credits: 3

EEL 6265 Advanced Electric Energy Systems 2.
Credits: 3

EEL 6266 Advanced Electric Energy Systems 3.
Credits: 3

EEL 6267 Advanced Electromechanical Energy Conversion.
Credits: 3

EEL 6311 Electronic Circuits 1.
Credits: 3

EEL 6312 Electronic Circuits 2.
Credits: 3

EEL 6313 Electronic Circuits 3.
Credits: 3

EEL 6315 Solid-State Circuits 1.
Credits: 4

EEL 6316 Integrated Circuit Design 2.
Credits: 3.

EEL 6317 Integrated Circuit Design 3.
Credits: 2

EEL 6381 Models and Applications of Solid-State Devices 1.
Credits: 3

EEL 6382 Semiconductor Physical Electronics 1.
Credits: 3

EEL 6383 Semiconductor Physical Electronics 2.
Credits: 3

EEL 6384 Semiconductor Physical Electronics 3.
Credits: 3

EEL 6388 Fluctuation Phenomena 1.
Credits: 3

EEL 6397C Semiconductor Junction Devices 1.
Credits: 3

EEL 6398 Semiconductor Junction Devices 2.
Credits: 3

EEL 6399 Models and Applications of Solid-State Devices 2.
Credits: 3

EEL 6442 Physical Optics for Engineers.
Credits: 3

EEL 6443 Electro-Optical Devices.
Credits: 3

EEL 6444 Electro-Optical Systems.
Credits: 3

EEL 6450 Wave Propagation in Anisotropic Media.
Credits: 3

EEL 6486 Electromagnetic Field Theory and Applications 1.
Credits: 3

EEL 6487 Electromagnetic Field Theory and Applications 2.
Credits: 3

EEL 6503 Signal Representation and Design.
Credits: 5

EEL 6505 Digital Signal Processing.
Credits: 5

EEL 6509 Space Communications.
Credits: 5

EEL 6524 Statistical Decision Theory.
Credits: 5

EEL 6534 Theory of Communication 1.
Credits: 5

EEL 6535 Theory of Communication 2.
Credits: 5

EEL 6614 Modern Control Theory 1.
Credits: 3

EEL 6615 Modern Control Theory 2.
Credits: 3

EEL 6616 Modern Control Theory 3.
Credits: 3

EEL 6622 Nonlinear Control Systems.
Credits: 3

EEL 6733 Analysis and Synthesis of Switching Circuits.
Credits: 5

EEL 6741C Microprocessors: Architectures and Applications, Laboratory.
Credits: 4

EEL 6824 Foundations of Information Science.
Credits: 5

EEL 6825 Pattern Recognition Theory and Applications 1.
Credits: 3

EEL 6826 Pattern Recognition and Computerbased Intelligence Systems.
Credits: 3

EEL 6827 Topics In Information Storage and Retrieval.
Credits: 3

EEL 6843 Applications of Automata Theory.
Credits: 5

EEL 6905 Individual Work.
Credits: 1 to 6

EEL 6910 Supervised Research.
Credits: 1 to 5††

EEL 6932 Graduate Seminar.
Credits: 1††; Maximum of 4 credits.

EEL 6935 Special Topics in Electrical Engineering.
Credits: 1 to 6; Maximum of 18 credits.

EEL 6940 Supervised Teaching.
Credits: 1 to 5††

EEL 6971 Master's Research.
Credits: 1 to 15††

EEL 7980 Doctoral Research.
Credits: 1 to 15††

Engineering: Electrical Lab and Related Areas

ELR 4116 Electric Energy System Instrumentation. W.
Credits: 3
Instrumentation and equipment for control and protection of electric power system components. Carrier and other types of communication systems and their applications to the electric power industry.

GRADUATE COURSES

ELR 5112 Automatic Speech Processing.
Credits: 3

ELR 5210 Cybernetics.
Credits: 5

ELR 6225 Electrical Activity of the Nervous System.
Credits: 3

ELR 6226 Biophysical Models of Nerve Impulse Propagation.
Credits: 3

Engineering: General

EGN 4730 Direct Energy Conversion Engineering 1.
Credits: 3; Prereq: Senior status in engineering.
A new technology resulting from space related activities for generating electrical energy by methods other than classic rotating machines. Engineering fundamentals. Thermoelectrics and thermionics.

EGN 4731 Direct Energy Conversion Engineering 2. W.
Credits: 3; Prereq: EGN 4730. Coreq: EGN 4732.
Photovoltaic, fuel cell, and magneto-hydrodynamic direct conversion systems.

EGN 4732L Direct Energy Conversion Engineering Laboratory. W.
Credits: 1 to 3; Prereq: EGN 4730 and instructor permission. Coreq: EGN 4731.
A creative project laboratory. Experimental studies of DEC devices and systems. Familiarization with a sampling of DEC devices and systems.

EGN 4735 Solar-Electric Engineering. W.
Credits: 3; Prereq: Senior status in Engineering.
Theory and applications of generating electric energy from the sun including thermal, direct, wind, sea, biological methods. Small and large solar-electric systems and energy storage.

ENGINEERING GRAPHICS
College of Engineering

INSTRUCTIONAL STAFF 1979-80

Gaither, R.B., Chairman; Samuel, J.A.; Watts, E.H.

EGN 1110C Elementary Engineering Graphics. F, W, S, SS.
Credits: 2
Representation and analysis of systems in orthographic projection. Engineering drawing as a descriptive tool.

EGN 1111C Engineering Graphics. F, W, S, SS.
Credits: 3
This three hour course is identical to the 2 hour EGN 1110, plus the one hour EGN 1130.

EGN 1123 Professional Drafting.
Credits: 2; Prereq: EGN 1111.
Professional topics in drafting. Emphasis on developing drafting as a professional skill.

EGN 1126 Design Processes in Engineering. F, W, S, SS.
Credits: 2; Prereq: A basic engineering graphics course.
Introductory design projects, and graphical solutions of engineering problems.

EGN 1130 Descriptive Geometry. F, W, S.
Credits: 1; Prereq: EGN 1110 or equivalent training in mechanical drawing.
True length of lines; true shape of planes; true angles; revolution; intersections; developments.

EGN 4114 Engineering Graphical Analysis. S.
Credits: 3; Prereq: MAC 3314, EGM 3511 and departmental graphics requirement.
The use of graphics in analytical design, graphical methods in the solution of specialized problems including structural analysis, machine dynamics and synthesis.

ENGINEERING SCIENCE AND MECHANICS
College of Engineering

INSTRUCTIONAL STAFF 1979-80

Millsaps, Knox, Chairman; Anderson, R.C.; Bispinghoff, R.L.; Boykin, W.H., Jr.; Clarkson, M.H.; Cristescu, N.; Doddington, H.W.; Ebcioglu, I.K.; Edson, C.G.; Eisenberg, M.A.; Fearn, R.L.; Green, A.E.S.; Grinter, L.E.; Hartley, C.S., Hemp, G.W.; Hoover, J.W.; Hsu, C.-C.; Kalman, R.E.; Kurzweg, U.H.; Leadon, B.M.; Lindgren, E.R.; Lu, S.Y.; Malvern, L.E.; Milton, J.E.; Nevill, G.E., Jr.; Partheniades, E.; Ross, C.A.; Sierakowski, R.L.; Sun, C.T.; Walsh, E.K.; Wilhelm, H.E.

Building Construction

BCN 2400 Construction Mechanics 1. F, W, S, SS.
Credits: 5; Prereq: MAC 2223, PHY 2004.
The study of external forces, truss analysis and geometric properties of members as applied to the design of structures. Primarily for building construction majors.

Engineering: General

EGN 1002 Introduction to Engineering. F, W, S.
Credits: 1
The role of the engineer in today's society. A survey of the fields of engineering and technology

EGN 1006 Case Studies in Engineering. F, W, S.
Credits: 1
A continuation of EGN 1002 with emphasis on a particular engineering discipline.

EGN 3023 Introduction to Physical Systems.
Credits: 2
Selected engineering problems, set in a professional context and solvable by elementary numerical methods using basic physical laws and common sense. The course provides a relationship between the physical sciences, mathematics and engineering analysis.

EGN 3353 Fluid Mechanics W, SS.
Credits: 4; Prereq: EGM 3400, MAC 3314.
Statics and dynamics of incompressible and compressible fluids. Equations of continuity, energy and momentum with application to viscous and inviscid flows. Dimensional analysis.

Engineering: Mechanics

EGM 3311 Introduction to Engineering Analysis. F, W, S, SS.
Credits: 3; Coreq: MAC 3314.
Formulation of mathematical models of physical systems resulting in ordinary differential equations. Solution methods for linear and nonlinear ordinary differential equations with constant coefficients. Laplace transform techniques. Emphasis on applications.

EGM 3400 Engineering Mechanics-Dynamics. F, W, S, SS.
Credits: 3 to 4; Prereq: EGM 3511, MAC 3314
Dynamics of particles and rigid bodies for rectilinear translation, curvilinear motion, rotation and plane motion. Principles of work and energy, also impulse and momentum.

††Grading is on S-U basis only.

Descriptions

ENGINEERING SCIENCE AND MECHANICS

EGM 3511 Engineering Mechanics-Statics. F, W, S, SS.
Credits: 4; Prereq: PHY 2040, MAC 3313.
Reduction of force systems. Equilibrium of particles and rigid bodies. Vector methods. Application to structures and mechanisms.

EGM 3520 Mechanics of Materials. F, W, S, SS.
Credits: 3 to 4; Prereq: EGM 3511, MAC 3314.
Stress and strain at a point, stress-strain relations. Systems subject to axial load, torsion, and bending. Design concepts, indeterminate structures, applications.

EGM 4000 Engineering Design 1. W.
Credits: 4; Prereq: Senior standing in Engineering Science or permission of instructor.
Emphasis on overall design and analysis of complex engineering systems. Materials, structural, chemical, control, nuclear, mechanical, electrical, and operational problems; cost analysis.

EGM 4001 Engineering Design 2. S.
Credits: 4; Prereq: EGM 4000.
Continuation of EGM 4000.

EGM 4008 Introduction to Engineering Optics. F.
Credits: 4; Prereq: PHY 2042.
Definition of the optical system. Calculation of radiometric quantities. Line and gray body sources. Atmospheric transmission. Selected topics in optics. Calculation of radiant flux through an optical system.

EGM 4009 Engineering Optics. S.
Credits: 4; Prereq: EGM 4008.
Optical modulation. Detectors, their selection and use. Noise. Signal processing. Design and analysis of an optical system.

EGM 4200 Fundamental Vibration Analysis. W, SS.
Credits: 4; Prereq: EGM 3400 and EGM 3520.
Undamped free and forced vibrations of systems on one degree of freedom, damped vibrations. Vibrations of systems with more than one degree of freedom. Shock and vibration isolation. Instruments for vibration analysis.

EGM 4312 Engineering Analysis 1. F.
Credits: 4; Prereq: EGM 3311 or MAP 3302.
Application of vector algebra and calculus, and complex variables to solid and fluid mechanics, electromagnetism, and heat and mass transfer. Introduction to conformal mapping.

EGM 4313 Engineering Analysis 2. W.
Credits: 4; Prereq: EGM 3311 or MAP 3302, PHY 2042.
Formulation of mathematical models of physical systems resulting in systems of ordinary differential equations. Problems resulting in equations with variable coefficients. Matrix and series solution techniques with emphasis on applications.

EGM 4314 Engineering Analysis 3. S.
Credits: 4; Prereq: EGM 4313.
Formulation of mathematical models of physical systems resulting in partial differential equations. Solution methods including separation of variables, exponential techniques, and Fourier series. Application to boundary value problems in heat conduction, diffusion, fluid mechanics and wave propagation.

EGM 4560 Mechanical Properties of Materials. S.
Credits: 3; Prereq: EGM 3520.
Introduction to the science of engineering materials. Application of solid state mechanics to mechanical properties of materials including elasticity, plasticity, fracture, creep and relaxation.

EGM 4901 Special Topics in Engineering Science and Mechanics. F, W, S, SS.
Credits: 1 to 6. Prereq: Permission of instructor.
May be repeated with change in content to a maximum of 12 credits.

EGM 4905 Individual Study in Engineering Science and Mechanics. F, W, S, SS.
Credits: 1 to 6; May be repeated to a maximum of 12 credits. Prereq: Recommendation of Department Chairman.
Selected problems or projects in the student's major field of engineering study.

EGM 4910L Laboratory Projects. F, W, S, SS.
Credits: 3; Prereq: Any one of EAS 4002, ECH 3264, EGN 3353 or EML 3101.
Experimental analysis of individually selected laboratory or field projects in concurrence with lectures on the principles of scientific research.

EGM 4949 Co-op Work Experience. F, W, S, SS.
Credits: 1††; Prereq: 4EG Classification.
One term industrial employment, including extra work according to a pre-approved outline. Practical engineering work under industrial supervision, as set forth in the College of Engineering Regulations.

GRADUATE COURSES

EGM 5005 Laser Principles and Applications. W.
Credits: 4

EGM 5111L Experimental Stress Analysis 1. W.
Credits: 3

EGM 5421 Modern Techniques of Structural Dynamics 1. S.
Credits: 3

EGM 5430 Intermediate Dynamics. F.
Credits: 3

EGM 5533 Advanced Mechanics of Solids and Structures. S.
Credits: 3

EGM 5550 Elevated Temperature Stress Analysis. F.
Credits: 3

EGM 5816 Intermediate Fluid Dynamics.
Credits: 3

EGM 5905 Individual Study. F, W, S, SS.
Credits: 1 to 9; Maximum of 9 credits.

EGM 6215 Theory of Structural Vibrations 1.
Credits: 4

EGM 6225 Theory of Structural Vibrations 2.
Credits: 4

EGM 6235 Nonlinear Vibrations 1.
Credits: 4

EGM 6236 Nonlinear Vibrations 2.
Credits: 3

EGM 6245 Random Vibrations.
Credits: 3

EGM 6321 Principles of Engineering Analysis 1.
Credits: 3

EGM 6322 Principles of Engineering Analysis 2.
Credits: 3

EGM 6323 Principles of Engineering Analysis 3.
Credits: 3

EGM 6324 Principles of Engineering Analysis 4.
Credits: 3

EGM 6325 Principles of Engineering Analysis 5.
Credits: 3

EGM 6341 Numerical Methods of Engineering Analysis 1.
Credits: 3

EGM 6342 Numerical Methods of Engineering Analysis 2.
Credits: 3

EGM 6351 Introduction to Finite Element Methods.
Credits: 4

EGM 6422 Modern Techniques of Structural Dynamics.
Credits: 3

EGM 6444 Advanced Dynamics 1.
Credits: 3

EGM 6445 Advanced Dynamics 2.
Credits: 3

EGM 6460 Stability of Dynamical Systems.
Credits: 3

EGM 6476 Inertial Guidance and Control.
Credits: 3

EGM 6478 Nonlinear Control Systems.
Credits: 3

EGM 6551 Introduction to Theory of Thermal Stresses.
Credits: 3

EGM 6584 Principles of Mechanics in Biomedical Engineering.
Credits: 3

EGM 6611 Continuum Mechanics 1.
Credits: 3

EGM 6612 Continuum Mechanics 2.
Credits: 3

EGM 6613 Advanced Continuum Mechanics.
Credits: 3

EGM 6652 Introduction to Elasticity.
Credits: 3

EGM 6653 Theory of Elasticity 1.
Credits: 3

EGM 6654 Theory of Elasticity 2.
Credits: 3

EGM 6670 Introduction to Inelastic Behavior of Materials.
Credits: 3

EGM 6671 Theory of the Inelastic Continuum.
Credits: 3

EGM 6682 Theory of Viscoelasticity.
Credits: 3

EGM 6683 Dynamic Plasticity.
Credits: 3

EGM 6684 Special Topics in Dynamic Plasticity.
Credits: 1 to 4

EGM 6716 Theory of Plates.
Credits: 3

EGM 6717 Introduction to Plates and Shells.
Credits: 3

EGM 6718 Methods of Analysis for Plates and Shells.
Credits: 3

EGM 6726 Theory of Shells.
Credits: 3

EGM 6736 Theory of Elastic Stability.
Credits: 4

EGM 6811 Theory of Fluid Flow 1.
Credits: 4

EGM 6812 Theory of Fluid Flow 2.
Credits: 3

EGM 6813 Theory of Fluid Flow 3.
Credits: 4

EGM 6835 Boundary Layer Theory.
Credits: 4

EGM 6845 Theories of Turbulent Flows.
Credits: 4

EGM 6905 Individual Study.
Credits: 1 to 9

EGM 6910 Supervised Research.
Credits: 1 to 5††

EGM 6934 Special Topics in Engineering Mechanics.
Credits: 1 to 9

EGM 6936 Graduate Seminar.
Credits: 1††

EGM 6940 Supervised Teaching.
Credits: 1 to 5††

EGM 6971 Master's Research.
Credits: 1 to 15††

EGM 7980 Doctoral Research.
Credits: 1 to 15††

ENGINEERING TECHNOLOGY
College of Engineering

INSTRUCTIONAL STAFF 1979-80

Materials Technology—Connell, R.G.

Engineering Tech: General

ETG 3935 Special Shops and Laboratories in Engineering Technology. F, W, S, SS.
Credits: 1 to 3
New shop courses or laboratories for developing Engineering Technology program. May be repeated up to a total of 10 credits.

ETG 3945 Supervised Work Experience in Engineering Technology. F, W, S, SS.
Credits: 1 to 5
Practical experience in engineering technology field under planned program. May be repeated up to 15 credits.

ETG 4905 Individual Work. F, W, S, SS.
Credits: 1 to 6
Special Courses, problems or projects needed to develop program in Engineering Technology. May be repeated up to 12 credits with change in content.

ETG 4940 Supervised Internship in Engineering Technology. F, W, S, SS.
Credits: 1 to 5
Practical work in College of Engineering shops or laboratories as part of required curriculum in Engineering Technology. May be repeated up to 15 credits.

ETG 4949 Co-op Work Experience. F, W, S, SS.
Credits: 1††
Practical engineering work under industrial supervision, as set forth in the College of Engineering Regulations.

Engineering Tech: Industrial

ETI 3411C Machine Shop 1. F, W, S, SS.
Credits: 1
Shop safety, to tool sharpening, measurements, cutting tool theory, reamers and threads, use of shapers and lathes.

ETI 3412C Machie Shop 2. W, S, SS.
Credits: 1; Prereq: ETI 3411C.
Use of hand tools, cleaning and surface treatment, use of milling machines, drills, power saws and grinders.

ETI 4405 Metals Joining Technology 1. F.
Credits: 3; Prereq: EMA 4121, 4122, 4124.
Laboratory projects in the technology of metal joining including: soldering, welding, brazing, bolting, riveting, adhesive bonding, etc.

ETI 4406 Metals Joining Technology 2. W.
Credits: 3; Prereq: EMA 4121, 4122, 4124.
Continuation of ETI 4405.

ETI 4407 Metals Joining Technology 3. S.
Credits: 3; Prereq: EMA 4121, 4122, 4124.
Continuation of ETI 4405.

Engineering Tech: Mechanical

ETM 4801L Heat Treating of Metal Laboratory. W.
Credits: 1
The technology of heat treating of metals including annealing, hardening of steels and irons, precipitation hardening, etc.

ETM 4804L Laboratory in Nondestructive Testing Techniques. S.
Credits: 2
The technology of non-destructive testing techniques including: radiography, magnetic particle inspection, ultrasonic inspection, etc.

Environmental Science

EVS 4215 Hydraulics and Hydrology.
Credits: 3
Fluids at rest and in motion. Study of dams, pipelines and open channels. Pumps and turbines. Steady flow and dimensional analysis. Hydrologic cycle. Flood routing. Groundwater; flow nets and saltwater intrusion.

ENGLISH
College of Arts and Sciences

INSTRUCTIONAL STAFF 1979-80

New, M., Acting Chairman; Anderson, B.J.; Baldwin, R.M.; Beirne, R.M.; Beyette, T.K.; Bigelow, G.E.; Brantley, R.E.; Bredahl, A.C.; Byron, K.H.; Carnell, C.S.; Carpenter, R.H.; Cech, J.; Childers, W.C.; Clark, I.; Closson, D.; Crews, H.E.; Deakin, M.F.; de Beaugrande, R.A.; Duckworth, A.M.; Foreman, R.C.; Frazer, W.L.; Gale, S.H.; Goldhurst, W.; Gordon, A.M.; Green, R.H.; Haskins, J.; Hellstrom, W.; Herbert, T.W.; Hetrick, L.A.; Hill-Lubin, M.A.; Hodges, J.R.; Holden, E.S.; Homan, S.R.; Kelly, D.L.; Kem, C.; Kendall, K.E.; Kershner, R.B.; Kirkpatrick, M.S.; Langford, A.G.; Lisca, P.; Locke, D.M.; Lopez, T.; Losano, W.A.; McCarthy, K.M.; McCrea, B.R.; Malvern, M.; Neale, J.R.; Nelson, M.D.; Perlette, J.M.; Pickard, J.B.; Ray, R.B.; Robinson, W.R.; Schmidt, P.; Sciadini, F.; Scott, J.C.; Shaw, H.B.; Smith, J.; Snodgrass, C.G.; Straus, B.R.; Sunwall, J.; Taylor, F.; Thompson, I.S.; Thompson, R.M.; Thomson, R.S.; Tillman, C.A.; Twitchell, J.B.; Ulmer, G.L.; Waldo, T.R.; Wear, R.A.; Williams, A.L.

Beginning students are normally expected to complete ENC 1102 and two additional courses from among ENC 1418, ENG 1200, ENG 1400, ENG 1710, which are designed for freshmen. Qualified students, however, may substitute more advanced courses (2000 level) with the approval of a departmental adviser. Prerequisite to all 3000 and 4000 level courses is 9 hours of English or permission of the instructor.

The freshman English requirement may also be satisfied by the CLEP examination. Students should seriously consider their decision about taking the CLEP general examination in English. Experience has shown that those who score below the 75th percentile are often handicapped because they have not had college courses in composition. The examination must be taken before the end of the first term at the University; students must take the option that includes an essay examination, so that their scores will be at least partially based on a writing sample.

Students in the lower division who intend to major in English should consult as soon as possible with a departmental adviser in 4008 GPA or 358 Little Hall.

The Departmental Major: The student must complete a minimum of 43 quarter hours of English courses, in addition to the general education English requirement of 9 hours. At least 31 of these 43 hours must be in courses numbered 3000 or above. The English Major consists of a group of required courses and a group of electives.

A. The requirements for the English Major include:

1. One course in the English language. ENG 4511 (History of the English Language) is recommended. ENG 3500 (Introduction to English Linguistics), ENG 3551 (Modern English Structure), or LIN 4400 (Applied Linguistics) will also satisfy this requirement.
2. One course in literary theory or criticism. The following courses will satisfy this requirement: ENG 3813 (The Major Critics), ENG 3812 (The Theory and Practice of Modern Criticism), ENG 3203 (Forms of Fiction), ENG 3410 (Forms of Drama) ENG 3714 (Forms of Poetry), ENG 4105 (Studies in Literary Genres).
3. One writing course. ENC 3464 (Advanced Composition), ENC 3532 (Argumentative Writing) or SPC 3605 (Speechwriting), are recommended.
4. Three survey courses in British and American literature: (1) ENL 2031 (Survey of English Literature: Medieval and Renaissance), (2) ENL 2034 (Survey of English Literature: Restoration through the Romantic Period) or AML 2020 (Survey of American Literature: From the Beginnings through Whitman), (3) ENL 2042 (Survey of English Literature: Victorian to the Present) or AML 2021 (Survey of American Literature: Twain to World War II). If they wish to do so, students may substitute comparable advanced courses. If they do make these substitutions, they still must satisfy the survey criterion of this requirement. They should secure the permission of an English Department advisor.

B. The electives for the English Major consist of six courses. It is recommended that students use some of these six courses to establish an area of emphasis within their major suited to their individual needs and preferences. Examples of areas of emphasis the student may choose are literature, linguistics, writing, film, folklore, preprofessional studies, children's literature. The student should consult with an English Department advisor when working out elective programs.

Teaching Certification: Students who wish to be certified to teach in the secondary schools should follow the same program as the departmental major; see the appropriate pages in the College of Education section of this catalog for additional requirements.

Honors. To graduate with Departmental Honors, one must earn satisfactory grades ("A" or "B") in at least two terms of ENG 4936, the Honors Seminar, which may be repeated (total 15 hours) and have an overall GPA of 3.3. Admission to ENG 4936 requires the recommendation of a departmental adviser. To graduate with High Honors, one must take either ENG 4936 for 10 hours or IDS 4938 for 12 hours, or both. For College and High Honors, see statement under COLLEGE OF LIBERAL ARTS AND SCIENCES: HONORS PROGRAMS.

UNDERGRADUATE COURSES
American Literature

(See also ENGLISH-GENERAL for other courses in American literature.)

AML 2020 Survey of American Literature: From the Beginnings through Whitman. F, W, S.
Credits: 4
Critical study of masterpieces embodying the main lines of literary tradition in the period.

AML 2021 Survey of American Literature: Twain to World War II. F, W, S.
Credits: 4
Critical study of masterpiecces embodying the main lines of literary tradition in the period.

††Grading is on S-U basis only.

Descriptions

ENGLISH

AML 3113 American Literature Since World War II. S.
Credits: 4
A study of contemporary American literature with attention to its general characteristics and development.

AML 4210 Major Figures of American Literature. F, W, S.
Credits: 4
A variable content course which will cover one major author each quarter. May be repeated once with change of content. Consult department for description of offering.

AML 4301 Themes, Genres, and Movements in American Literature. W.
Credits: 4
A variable content course. May be repeated once with change of content. Consult department for description of offering in quarter given.

Creative Writing

(See also ENGLISH COMPOSITION for other writing courses.)

CRW 2221 Beginning Fiction Writing. F, W, S.
Credits: 3
A beginning course in fiction writing designed to acquaint the student with the craft of writing. Original works of fiction by the students will be read and discussed in class.

CRW 2321 Beginning Poetry Writing. F, W, S.
Credits: 3
A course designed to acquaint the student with the fundamentals of poetry writing by exploring its various forms and techniques and their relationship to the practical problems of meaning. Poetry written by the students will be read and discussed in class.

CRW 3230 Imaginative Writing: Fiction. F, W, S.
Credits: 3
Designed to help the student who desires guidance in developing his capacity for original work. Group discussion, individual conferences, many papers.

CRW 3330 Imaginative Writing: Poetry. F, W, S.
Credits: 3
Guidance in development of original work in poetry. Group discussion, individual conferences.

CRW 3530 Beginning Course in Writing for Younger Readers. F, W, S.
Credits: 3
Student will write original material, selecting from several genres: fiction, poetry, drama, or nonfiction.

CRW 4540 Advanced Writing for Younger Readers. F, W, S.
Credits: 4; Prereq: Permission of the instructor.
Students will write original material, selecting from several genres: fiction, poetry, drama, or non-fiction. Can be repeated for credit.

CRW 4905 Individual Work in Fiction Writing. F, W, S.
Credits: 4; Prereq: Permission of the instructor.
Individual projects in creative composition for qualified students interested in the writing of fiction. Can be repeated for credit.

CRW 4906 Individual Work in Poetry Writing. F, W, S.
Credits: 4; Prereq: Permission of the instructor.
Individual projects in creative composition for qualified students interested in the writing of poetry. Can be repeated for credit.

English Composition

(See also CREATIVE WRITING for other writing courses.)

††Grading is on S-U basis only.

ENC 1017 Writing Laboratory. F, W, S, SS.
Credits: 1††
Supplemental lab course for students desiring closely supervised work in writing. The course may be repeated.

ENC 1102 Expository Writing. F, W, S, SS.
Credits: 3
An introduction to the methods of exposition — definition, classification, comparison and contrast, illustration, analysis. ENC 1102 or its equivalent is required as a prerequisite for all other English courses. Students who earn less than a B grade in ENC 1102 are advised to take a second composition course.

ENC 1418 Argumentative and Persuasive Writing. F, W, S, SS.
Credits: 3
An introduction to the methods of argument and persuasion. Students who earn less than a B grade in ENC 1102 are advised to take this course.

ENC 3343 Basic Technical Writing. F, W, S.
Credits: 3; Prereq: Junior standing.
Effective presentation of technical and semi-technical information.

ENC 3351 Business Communications. F, W, S, SS.
Credits: 4; Prereq: 9 hours of English.
Intensive instruction and practice in the organization, content, and style of business letters of all kinds.

ENC 3464 Advanced Exposition. F, W, S, SS.
Credits: 3
An advanced composition course in the methods of exposition: the writing of definition, classification, comparison and contrast, analysis, illustration, identification.

ENC 3532 Argumentative Writing. F, W, S.
Credits: 3
A course in advanced composition concerned with the writing of argument and critical analysis.

ENC 4356 Report Writing. F, W, S.
Credits: 4; Prereq: Junior standing.
Instruction and practice in writing reports for practical purposes. Collecting, organizing, and interpreting facts, then writing up findings in report form and style.

ENC 4811 Propaganda and the Humanities. F, S.
Credits: 4
A study of the techniques of propaganda and of the relationship of proganda to the humanties.

English — General

ENG 1120 Introduction to Film. W, S.
Credits: 4
A viewing and discussion of the different kinds of films: narrative films, documentaries, experimental and personal films. Three papers are required.

ENG 1200 Introduction to Fiction. F, W, S, SS.
Credits: 4
The reading of novels and short stories primarily by American and British authors for the purpose of understanding the forms and techniques of fiction. Three papers are required.

ENG 1400 Introduction to Drama. F, W, S, SS.
Credits: 4
The reading of plays primarily by American and British authors for the purpose of understanding the forms and techniques of drama. Three papers are required.

ENG 1710 Introduction to Poetry. F, W, S, SS.
Credits: 4
The reading of poems primarily by American and British authors for the purpose of understanding the forms and techniques of poetry. Three papers are required.

ENG 2121 Understanding Film. F, W.
Credits: 4
A study of the film as an artistic medium. Emphasis will be placed upon film elements, such as camera movement and editing, and their importance to the total artistry of the film. Written assignments will include analysis of film elements. This course is a prerequisite for other courses in film studies.

ENG 2540 English Grammar. F, W, S.
Credits: 2
A course in the basics of traditional English grammar designed as a complement to our composition and creative writing courses, as a review for those students who will take preprofessional exams, and as a basic course for students interested in improving their knowledge of English. Does not satisfy the nine hour General Education requirement in English.

ENG 2932 English: College Honors. F, W, S.
Credits: 3
Enrollment by invitation. The critical reading of various kinds of literature. The fall quarter concentrates on fiction, the winter quarter on drama, and the spring quarter on poetry. Textual materials are chosen to match the abilities of Honors students. The students are encouraged to show originality, invention, and responsibility in speaking and writing, in leading discussions, in investigating, interpreting, reporting, and defending their findings. This course can be repeated for credit.

ENG 3132 The Movies as Narrative Art. F.
Credits: 4; Prereq: ENG 2121.
An examination of the movies as a mode of storytelling, with emphasis upon the difference between verbal and visual narration, and in relation to contemporary thought and values.

ENG 3135 History of the Film, Part I. W.
Credits: 4; Prereq: ENG 2121.
History of the film from its beginnings to the introduction of sound.

ENG 3136 History of the Film, Part II. S.
Credits: 4; Prereq: ENG 2121.
History of the film from sound to the present.

ENG 3203 The Forms of Fiction. F.
Credits: 4
A close reading and critical analysis of representative forms and styles of fiction, with the major objective of improving the student's ability to read the short story and novel with understanding.

ENG 3221 American Fiction: Beginnings to 1900. F, W.
Credits: 4
Includes works by Cooper, Poe, Hawthorne, Melville, Twain, Howells, and James.

ENG 3222 American Fiction: 1900 to World War II. F, W, S.
Credits: 4
Includes works by Crane, Dreiser, Hemingway, Fitzgerald, Faulkner, and Steinbeck.

ENG 3315 The English Novel: 20th Century. S.
Credits: 4
Includes works by such writers as Conrad, Lawrence, Joyce, Forster, Woolf, Greene, and Waugh.

ENG 3321 The English Novel: 18th Century. F.
Credits: 4
Includes works by such writers as Defoe, Richardson, Fielding, Sterne, and Smollett.

ENG 3325 The English Novel: 19th Century. W.
Credits: 4
Includes works by such writers as Scott, Austen, Dickens, Thackeray, Eliot, and Hardy.

ENG 3410 The Forms of Drama. W.
Credits: 4
A close reading and critical study of representative types and styles of drama, with the major objective of improving the student's ability to read the play with understanding.

ENG 3462 Modern Drama: Early. F.
Credits: 3
A study of drama from Ibsen through O'Neill.

Representative selections from Continental, British, and American playwrights.

ENG 3463 Modern Drama: Late. W, S.
Credits: 3
A study of drama from Pirandello to the present.

ENG 3500 Introduction to English Linguistics. F, W, S.
Credits: 4
A survey of modern linguistics and the English language, its structure and development.

ENG 3551 Modern English Structure. F, W, S.
Credits: 4
A study of the grammar of current English from the viewpoint of modern linguistics.

ENG 3714 The Forms of Poetry. S.
Credits: 4
A close reading and critical study of representative types and styles of poetry, with the major objective of improving the student's ability to read poems with understanding.

ENG 3812 The Theory and Practice of Modern Criticism. F.
Credits: 4
An intensive study of the idea of art as it has evolved in 20th-century literary criticism and of the application of that idea to specific narrative, poetic, and dramatic texts.

ENG 3813 The Major Critics. W.
Credits: 4
A reading in historical order of the major texts of literary criticism.

ENG 4105 Studies in Literary Genres. F.
Credits: 4
A variable topics course providing a study in depth in a particular literary genre such as the epic, satire, burlesque, etc. Consult department for description of offering in quarter given.

ENG 4141 Film Studies. F, W, S.
Credits: 4; Prereq: ENG 2121.
A course of variable content providing an opportunity for the study in depth of film genres, notable film directors, and other significant topics on subjects related to film. May be repeated with a change of topic up to a maximum of 12 credits.

ENG 4161 Children's Literature. F, W, S.
Credits: 4
Designed to arouse a genuine interest in children's books and to aid the student in obtaining a critical knowledge of the literature.

ENG 4162 Literature for Young Children. F, W, S.
Credits: 4
An exploration of kinds and qualities of literature for the younger child, examining the child's first experience with literature in oral forms, then moving on to picture and story books and poetry.

ENG 4165 Literature for the Adolescent. F, W, S.
Credits: 4
A study of the types of literature read by adolescents, with emphasis upon the criteria for the choice of good books and upon developing a familiarity with the many books available.

ENG 4511 History of the English Language. F, W, S.
Credits: 4
The origins of the English language and its development from prehistoric times to present.

ENG 4745 American Poetry: Nineteenth and Twentieth Century. W.
Credits: 4
Critical study of such major American poets as Emerson, Whitman, Dickinson, Robinson, Frost, Eliot, Stevens.

ENG 4748 Modern English Poetry: Eliot to the Present. S.
Credits: 4
Critical study of such major poets as Eliot, Auden, Thomas, McNeice, Spender, and Lewis.

ENG 4905 Independent Study. F, W, S, SS.
Credits: 1 to 5; Prereq: Permission of the instructor and of the department head or his delegate.
For advanced students who desire to supplement the regular courses by independent reading or research under guidance. May be repeated with change of topic up to a maximum of 12 credits.

ENG 4936 Honors Seminar. F, W, S.
Credits: 5; Prereq: Recommendation by a departmental adviser.
Open to selected English majors. Intensive study by the seminar method of a limited topic in English and American literature. To obtain Department Honors (and possibly High Honors) ENG 4936 should be taken at least twice during one's junior and senior years. May be repeated (maximum of 15 hours).

ENGLISH LITERATURE

(See also ENGLISH-GENERAL for other courses in English Literature.)

ENL 2031 Survey of English Literature: Medieval and Renaissance. F, W, S.
Credits: 4
Critical study of such representative authors as Chaucer, Spenser, Shakespeare, and Donne, with some emphasis given to the literary history of the period.

ENL 2034 Survey of English Literature: Restoration through the Romantic Period. F, W, S.
Credits: 4
Critical study of such representative authors as Milton, Pope, Johnson, Wordsworth, and Byron, with some emphasis given to the literary history of the period.

ENL 2042 Survey of English Literature: Victorian to the Present. F, W, S.
Credits: 4
Critical study of such representative authors as Tennyson, Browning, Hopkins, Yeats, Lawrence, and Joyce, with some emphasis given to the literary history of the period.

ENL 2130 Introduction to Shakespeare. F, S.
Credits: 4
A course designed to introduce students to the pleasure and wisdom of Shakespeare's plays. Various approaches will be used: movie versions of the plays, staging of scenes from the plays, and discussion.

ENL 3451 British Literature Since World War II. W.
Credits: 4
A study of contemporary British literature with attention to its general characteristics and development.

ENL 4111 Chaucer. F, S.
Credits: 4
Reading and critical study of Chaucer's poetry. Emphasis will be on the *Canterbury Tales* or *Troilus and Criseyde* at the option of the instructor.

ENL 4135 Shakespeare: Early Plays. F, W, S.
Credits: 4
A study of selected plays from Shakespeare's early period, such as *A Midsummer Night's Dream, Twelfth Night, Richard II, Henry IV,* Romeo and *Juliet.*

ENL 4136 Shakespeare: Late Plays. F, W, S.
Credits: 4
A study of selected plays from Shakespeare's late period, such as *Hamlet, King Lear, Measure for Measure. The Winter's Tale, The Tempest.*

ENL 4311 Medieval English Literature. W.
Credits: 4
A survey of representative works of the Middle English period such as *Sir Gawain and the Green Knight, Pearl,* Malory's *Morte D'Arthur,* and selections from medieval drama and lyric poetry.

ENL 4321 Renaissance Studies. S.
Credits: 4
A variable content course in different aspects of the Renaissance, such as the major drama from the time of Marlowe to the closing of the theaters in 1642.

ENL 4331 Renaissance Literature: 16th Century. F.
Credits: 4
Variable topics, 1485-1603, such as Spenser, the rise of English prose, the development of English verse, the age of sonnets, Elizabethan fiction. Consult department for description of offering.

ENL 4341 Renaissance Literature: 17th Century. W.
Credits: 4
Variable topics, 1603-1700, such as Milton, the evolution in English prose styles, sacred and secular lyrics, the literature of paradox. Consult department for description of offering.

ENL 4351 The Age of Dryden and Pope. W.
Credits: 4
Selections from the best works of such writers as Dryden, Congreve, Addison, Swift, and Pope.

ENL 4352 The Age of Johnson. S.
Credits: 4
A study of the best works from Johnson, Boswell, Reynolds, Goldsmith, Blake and others writing between 1740-1800.

ENL 4403 The Romantic Period: Early. F.
Credits: 4
Selections from the best works of such writers as Burns, Blake, Wordsworth, Coleridge, Scott, and Lamb.

ENL 4404 The Romantic Period: Late. W.
Credits: 4
Selections from the best works of such writers as Byron, Shelley, and Keats.

ENL 4412 Victorian Literature. F.
Credits: 4
Selections from such writers as Tennyson, Browning, Arnold.

ENL 4415 Ideas and Themes in Victorian Literature. S.
Credits: 4
Selections from such writers as Carlyle, Newman, Mill, Ruskin, Arnold. Consult department for description of offering in the quarter given.

English as a Second Language

ESL 2341 English Language and Writing for Foreign Students. F, W, S, SS.
Credits: 2 to 5
A composition course designed to teach the basics of expository writing. May be taken by foreign students as the equivalent of ENC 1102.

Humanities

HUM 4522 Literature and Opera. W.
Credits: 4
A study of literary and operatic forms with special emphasis on character and theme.

Linguistics

(See also ENGLISH-GENERAL for other Linguistics courses.)

LIN 4400 Applied Linguistics. S.
Credits: 4
The application of linguistics to the study of English; a comparison of modern approaches to the study of grammar. With a change in content, may be repeated for credit.

Library Science

LIS 2001 Use of Books and Libraries. F, W, S.
Credits: 2
Detailed study of the basic and most useful refer-

ence books and bibliographic aids. Practice problems in the use of specific titles and in how to find materials in the library. Does not satisfy nine hour general education requirement in English.

LIS 2100 History of Books, Printing, and Libraries. W.
Credits: 3
The book, the invention of printing, and the place of libraries in the development of western culture. Does not satisfy nine hour general education requirement in English.

Literature

(See also AMERICAN LITERATURE, ENGLISH-GENERAL, ENGLISH LITERATURE, LANGUAGE ARTS, and ENGLISH EDUCATION for other literature courses.)

LIT 2160 Contemporary Reading. W, S.
Credits: 3
The study of selected contemporary writers. Reading lists will vary with individual sections.

LIT 2212 Survey of World Literature: Ancient. F, W, S.
Credits: 4
The first quarter of a course which examines the panorama of world literature, particularly as that literature has influenced British and American writers. Satisfies the general education requirement in Humanities.

LIT 2214 Survey of World Literature: Medieval and Renaissance. F, W, S.
Credits: 4
European literature from the middle ages through the seventeenth century. Satisfies the general education requirement in Humanities.

LIT 2224 Survey of World Literature: Modern. F, W, S.
Credits: 4
From the end of the seventeenth century to the present. Satisfies the general education requirement in the Humanities.

LIT 2930 Special Topics. F, W, S.
Credits: 4
In these courses instructors will choose topics in which they have a special competence and interest. Examples of topics used are utopian literature, Florida literature, fantasy. Topics will be announced by the department.

LIT 3162 Metaphysics of Modern Literature. S.
Credits: 4
A critical reading of distinctive works of modern literature with the intent of discovering the world-view they embody. Readings from novels, short stories, and plays.

LIT 3218 Great Books of the Western World I. W.
Credits: 4
Many of the great classics are read, analyzed and discussed. This is a two course sequence. In the first course the works of classical, medieval, and renaissance writers are read.

LIT 3219 Great Books of the Western World II. S.
Credits: 4
Second half of the course. Works of writers from the 18th century to the present are read.

LIT 3311 The Bible as Literature. S.
Credits: 4
A literary analysis of selections from the Old and New Testaments, with emphasis upon the poetry and narrative elements.

LIT 3321 Ethnic Literature. W.
Credits: 4
A study of selected literature representative of various ethnic groups in the United States, e.g., American Indian, Negro, Jewish, Spanish American.

††Grading is on S-U basis only.

LIT 3342 Afro-American Literature. S.
Credits: 4
A study of literature—prose, fiction, drama, poetry, essays—by representative black American authors, with emphasis on the twentieth century.

LIT 3363 Jewish Literature. W.
Credits: 4
A variable content course in aspects of the Jewish literary experience, from the biblical narrative and Talmudic tales to Yiddish literature and the American Jewish novel.

LIT 3411 Women in Literature. F, S.
Credits: 4
A critical and thematic study of women in literature. A variable content course which may include fiction, poetry, or drama; English, American, or World Literature.

LIT 3443 Modern Science Fiction. F, S.
Credits: 4
An interdisciplinary approach to contemporary trends in science fiction. Writers such as Orwell, Herbert, Delaney, Vonnegut, and Miller are studied.

LIT 4131 Studies in Modern Literature. S.
Credits: 4
A variable topics course providing a study in depth of an author or a topic such as myth, symbolism, romanticism, or expressionism in modern literature. Consult department for description of offering.

LIT 4228 Studies in World Literature. W.
Credits: 4
A variable content course embracing topics such as the lyric, the prose epic, symbolist poetry, the impressionist novel, etc. Will include works from various countries studied in their historical and cultural context.

LIT 4282 Introduction to Folklore. F, S.
Credits: 4
Reading, discussion, and critical study of the types of folklore, with emphasis on folksong. Some attention to utilization by teachers and creative artists.

LIT 4284 The Folktale. W.
Credits: 4
Reading folktales, a study of their types and characteristics, some attention to critical and scholarly study, and utilization of folktales by teachers and creative artists.

LIT 4328 African Literature in English. W.
Credits: 4
A critical and analytical study of representative Black African authors writing in English, notably Achebe, Awoonor, Ngugi, Aidoo, Soyinka, Armah, Ekwensi, Mphahlele, and p'Bitek.'

LIT 4371 Modern Irish Literature. W.
Credits: 4
Survey of the Irish Renaissance. Selections from Mangan, Moore, "A.E.", Wilde, Shaw, Yeats, Lady Gregory, Synge, Joyce, Stephens, O'Casey, Flann O'Brian.

LIT 4930 Variable Topics in Literature and Language. F, W, S.
Credits: 4
Proseminar of variable content providing an opportunity for the study in depth of various topics or subjects such as the literature of war and peace, of death, of courtly love. May be repeated with change of content up to a maximum of eight credits.

Reading

REA 2205 Advanced College Reading and Vocabulary Skills. F, W, S.
Credits: 2
This course is designed to develop reading skills through lectures, class discussion and practice in a laboratory.

Reading Education

RED 1343 Reading in the Content Area. F, W, S, SS.
Credits: 1††
Supplemental lab course for students desiring closely supervised work in reading. This course may be repeated.

Speech Communication

(See also ENGLISH COMPOSITION for other composition courses. See ENGLISH-GENERAL for other courses in critical analysis and theory of criticism.)

SPC 3605 Speechwriting. F, W, S.
Credits: 4
Consideration of and practice with word choice and word arrangement as sources of style that influence memorability, credibility, and ease and accuracy of comprehension.

SPC 3680 Rhetorical Criticism. S.
Credits: 4
Critical analyses of rhetorical elements and processes in both oratorical and nonoratorical forms.

SPC 4631 Language and Image in Political Communication. W.
Credits: 4
A study of symbolic sources of rhetorical effectiveness as employed in various genres of communication in political contexts.

GRADUATE COURSES

Courses offered through the Program in Linguistics with the prefix LIN may also be used as part of a graduate program in English.

American Literature

AML 6341 Studies in American Literature Before 1900.
Credits: 4

AML 6342 Studies in 20th Century American Literature.
Credits: 4

Creative Writing

CRW 6250 Fiction Writing.
Credits: 4

CRW 6350 Verse Writing.
Credits: 4

CRW 6550 The Writing of Children's Literature.
Credits: 4

English-General

ENG 5905 Special Study in English.
Credits: 1 to 5

ENG 6063 Bibliography and Methods of Research.
Credits: 4

ENG 6143 The Language of Film.
Credits: 4

ENG 6144 Studies in the Movies.
Credits: 4

ENG 6154 Communications and Popular Culture.
Credits: 4

ENG 6217 Studies in Fiction.
Credits: 4

ENG 6437 Studies in Drama.
Credits: 4

ENG 6595 Studies in English Linguistics.
Credits: 4

ENG 6718 Stylistics.
Credits: 4

ENG 6755 Studies in Verse.
Credits: 4

ENG 6839 Studies in Literary Criticism.
Credits: 4

ENG 6905 Individual Work.
Credits: 1 to 4

ENG 6910 Supervised Research.
Credits: 1 to 15††

ENG 6971 Master's Research.
Credits: 1 to 15††

ENG 7938 Seminar in Variable Topics.
Credits: 1 to 5

ENG 7980 Doctoral Research.
Credits: 1 to 15††

English Literature

ENL 6148 Studies in Shakespeare.
Credits: 4

ENL 6304 Studies in Old English.
Credits: 4

ENL 6314 Studies in Middle English.
Credits: 4

ENL 6323 Studies in Renaissance Literature.
Credits: 4

ENL 6394 Studies in Restoration and 18th Century Literature.
Credits: 4

ENL 6425 Studies in 19th Century British Literature.
Credits: 4

ENL 6447 Studies in 20th Century British Literature.
Credits: 4

Language Arts and English Education

LAE 6379 Teaching of Business and Technical Writing.
Credits: 4

LAE 6940 Supervised Teaching.
Credits: 1 to 5††

LAE 6947 Practicum in the Teaching of College English.
Credits: 4

Literatures

LIT 6283 Studies in Folklore.
Credits: 4

LIT 6373 Studies in Irish Literature.
Credits: 4

LIT 6934 Variable Topics.
Credits: 1 to 5

Reading Education

RED 6380 Principles of Community College and Adult Reading Instruction.
Credits: 4

RED 6480 Laboratory in Community College and Adult Reading Instruction.
Credits: 4

Speech Communication

SPC 6239 Studies in Rhetorical Theory.
Credits: 4

ENTOMOLOGY AND NEMATOLOGY

INSTRUCTIONAL STAFF 1979-80

G.C. Smart, Jr., Acting Chairman; Allen, G.E.; Ashley, T.R.; Ball, J.C.; Baranowski, R.M.; Barfield, C.S.; Berner, L.; Brogdon, J.E.; Brooks, R.F.; Burditt, A.K.; Buren, W.F.; Butler, J.F.; Callahan, P.S.; Carlson, D.A.; Chambers, D.L.; Clark, E.W.; Cromroy, H.L.; Dame, D.A.; Dickson, D.W.; Dowell, R.V.; Dunn, R.A.; Fairchild, A.G.B.; Ferkovich, S.M.; Focks, D.A.; Foltz, J.L.; Frank, J.H.; Greany, P.D.; Habeck, D.H.; Hagstrum, D.W.; Hall, D.W.; Hamon, A.B.; Herzog, D.C.; Huettel, M.D.; Johnson, F.A.; Kerr, S.H.; Koehler, P.G.; Leppla, N.C.; Lipsey, R.L.; Lloyd, J.E.; Lofgren, C.S.; Lowe, R.E.; McCoy, C.W.; McLaughlin, J.R.; Matheny, E.L.; Mayer, M.S.; Minnick, D.R.; Mitchell, E.R.; Morgan, P.B.; Musgrave, C.A.; Nation, J.L.; Nayer, J.K.; Nigg, H.N.; Oberlander, H.; Overman, A.J.; Patterson, R.S.; Perry, V.G.; Reinert, J.A.; Rhoades, H.L.; Rich, J.R.; Roberts, R.H.; Robinson, F.A.; Sailer, R.I.; Schuster, D.J.; Seawright, J.A.; Sharp, J.L.; Short, D.E.; Silhacek, D.L.; Smittle, B.J.; Stange, L.A.; Stimac, J.L.; Stokes, D.E.; Strayer, J.R.; Tarjan, A.C.; Tsai, J.H.; Tumlinson, J.H., III; Vick, K.W.; Waddill, V.H.; Waites, R.E.; Walker, T.J.; Weems, H.V., Jr.; Weidhaas, D.E.; Westfall, M.J., Jr.; Whitcomb, W.H.; Wilkinson, R.C., Jr.; Williams, D.F.; Wiseman, B.R.; Wojcik, D.P.; Woodruff, R.E.; Workman, R.B.; Young, D.G.

ENY 3003 Insect Natural History. W, SS.
Credits: 3
Primarily concerned with insects in their natural environment. This course is designed for non-science majors.

ENY 3004 General Entomology. S.
Credits: 4; Prereq: BSC 2010, BSC 2011 or equivalent.
General insect biology with an evolutionary perspective. The 10 labs are devoted almost exclusively to learning major Orders by sight, and the identification of Families with the "Peterson" field guide. Discussion, visual aids, field trips.

ENY 3005 Principles of Entomology. F, W, S, SS.
Credits: 3; Required Coreq: ENY 3006 or one of the 35 series. Laboratory Course.
An introduction to Entomology including structure, development, classification and habits. Various approaches to insect control are explored.

ENY 3006L Principles of Entomology Laboratory. F, W, S, SS.
Credits: 2; Prereq. or Coreq: ENY 3005.
A laboratory study of insect structure, classification, behavior and control.

ENY 3511 Fruit Insects. SS.
Credits: 2; Prereq. or Coreq: ENY 3005.
A laboratory oriented study of the identification, injury, life history and control of citrus and other fruit and nut insect pests.

ENY 3513 Vegetable Insects. S.
Credits: 2; Prereq. or Coreq: ENY 3005.
A laboratory oriented study of the identification, injury, life histories and control of the important pests of Florida vegetable crops.

ENY 3515 Ornamental and Turf Insects. F.
Credits: 2; Prereq. or Coreq: ENY 3005.
A laboratory oriented study of the identification, injury, life histories and control of the important pests of ornamental plants and turf.

ENY 3521 Field Crop Insects. S.
Credits: 2; Prereq. or Coreq: ENY 3005.
A laboratory oriented study of the identification, injury, life history and control of important Florida field crop insect pests.

ENY 3531 Animal Insects. F.
Credits: 2; Prereq. or Coreq: ENY 3005.
A laboratory oriented study of the identification, importance, life histories and control of the important insect pests of domesticated animals.

ENY 3541 Forest Insects. S.
Credits: 3
The identification, injury, life history and control of important forest and shade tree insect pests.

ENY 3551 Household Insects. W, SS.
Credits: 2; Prereq. or Coreq: ENY 3005.
A laboratory oriented study of the major insect pests encountered in households and structures including their life histories and control.

ENY 3701 Principles of Nematology. F, SS.
Credits: 4; Prereq: ZOO 2013, or equivalent.
An introduction to Nematology including studies of morphology, life histories, and control of the major nematode parasites of plants. Also, studies of the bionomics of certain soil nematodes and nematode parasites of vertebrates and arthropods.

ENY 3931 Undergraduate Seminar. F, W.
Credits: 1
Preparation and presentation of papers on approved subjects in Entomology and Nematology. May be repeated to a maximum of 3 credits.

ENY 4161 Insect Identification. W, S.
Credits: 5; Prereq: ENY 3004, ENY 3005, or equivalent.
Identification of immature and adult insects of all major families.

ENY 4201 Insect Ecology, Behavior, and Systematics. F, S.
Credits: 5; Prereq: ENY 3004, ENY 3005, or permission of instructor.
The environmental relations of insects with an evolutionary perspective; basic concepts in evolutionary ecology, population genetics, behavior, and systematic entomology, including the essentials of taxonomy and nomenclature, collecting, and museum technique.

ENY 4221 Principles of Insect Control. W.
Credits: 5; Prereq: ENY 3005.
Designed for all students in agriculture. Descriptions, uses, and limitations of strategies and tools for insect control. Insecticides, growth regulators, chemicals affecting behavior, sterilization, biological control, physical control, cultural control; the pest management concept.

ENY 4353 Insect Physiology and Morphology. F, W.
Credits: 5; Prereq: ENY 3004, ENY 3005, BCH 3023 or equivalent.
The external and internal morphology of insects and the physiology of cells, tissues, organs and systems.

ENY 4571C Apiculture. S.
Credits: 3; Prereq: ENY 3004, ENY 3005 or permission of the instructor.
The organization of a bee colony, life processes, races of bees, manipulation, value of colonies, nectar and pollen sources, pollination value, diseases, selection of apiary sites, economic importance of the industry, equipment and marketing of products.

ENY 4660 Medical & Veterinary Entomology. F.
Credits: 4; Prereq: ENY 3004 or ENY 3005 or permission of instructor.
The bionomics, classification, distribution, disease relationship, structure, and control of arthropods affecting man and domestic animals. Also recommended for students in Environmental Engineering, Parasitology and Medicine.

ENY 4905 Problems in Entomology. F, W, S, SS.
Credits: 1 to 5; Prereq: ENY 3004 or ENY 3005 and the basic course in selected field of specialization.
Problems in any field of specialization in Entomology and Nematology. May be repeated for a total of five credits.

††Grading is on S-U basis only.

Descriptions

ENVIRONMENAL ENGINEERING SCIENCES

ENY 4941 Full Time Practical Work Experience in Entomology and Nematology. F, W, S, SS.
Credits: 1 to 4; S-U Grade only. Prereq: Prior arrangement with adviser and approval of Department Chairman and Dean.
Practical work must be a new experience and related to the field of study.

GRADUATE COURSES

ENY 5561 Tropical Entomology. F.
Credits: 4

ENY 5781 Tropical Plant Nematology. F.
Credits: 4

ENY 6151 Insect Systematics. W.
Credits: 5

ENY 6203 Insect Ecology. S.
Credits: 5

ENY 6241 Biological Control of Insects. S.
Credits: 5

ENY 6261 Insect Resistance to Crop Plants 1. W.
Credits: 4

ENY 6262 Insect Resistance to Crop Plants 2. W.
Credits: 3

ENY 6321 Comparative Anatomy of the Hexapoda. F.
Credits: 5

ENY 6401C Insect Physiology. F.
Credits: 5

ENY 6451 Insect Behavior. W.
Credits: 3

ENY 6502 Aquatic Insects. SS.
Credits: 5

ENY 6581 Acarology. S.
Credits: 5

ENY 6591 Mosquitoes. S.
Credits: 5

ENY 6601 Growth and Development in Insects. W.
Credits: 4

ENY 6611 Immature Insects. F.
Credits: 5

ENY 6651 Insect Toxicology. W.
Credits: 3

ENY 6661 Medical Entomology. SS.
Credits: 5

ENY 6663 Veterinary Entomology. F.
Credits: 5

ENY 6711 Taxonomy of Nematodes. S.
Credits: 5

ENY 6723 Advanced Plant Nematology. W.
Credits: 5

ENY 6731 Nematode Morphology and Anatomy. W.
Credits: 5

ENY 6780C Marine Nematology. S.
Credits: 4

ENY 6801 Radiation in Insect Studies. W.
Credits: 5

ENY 6810 Information Techniques in Entomology. F.
Credits: 1

ENY 6821 Insect Pathology. SS.
Credits: 5

ENY 6822C Microbial Control of Insects. SS.
Credits: 3

††Grading is on S-U basis only.

ENY 6905 Problems in Entomology and Nematology. F, W, S, SS.
Credits: 1 to 6

ENY 6910 Supervised Research. F, W, S, SS.
Credits: 1 to 5††

ENY 6932 Special Topics in Entomology and Nematology. F, W, S, SS.
Credits: 1 to 2††

ENY 6940 Supervised Teaching. F, W, S, SS.
Credits: 1 to 5††

ENY 6971 Master's Research. F, W, S, SS.
Credits: 1 to 15††

ENY 6986 Research Techniques in Entomology. W.
Credits: 5

ENY 7980 Doctoral Research. F, W, S, SS.
Credits: 1 to 15††

ENVIRONMENTAL ENGINEERING SCIENCES
College of Engineering

INSTRUCTIONAL STAFF 1979-80

Pyatt, E.E., Chairman; Arbuckle, W.B.; Alexander, J.; Bevis, H.A.; Bitton, G.; Bolch, W.E., Jr.; Brezonik, P.L.; Crisman, T.L.; Dunavant, B.G.; Ewel, K.C.; Heaney, J.P.; Huber, W.C.; Lundgren, D.A.; March, A.W.; Odum, H.T.; Putnam, H.D.; Roessler, C.E.; Singley, J.E.; Urone, P.; Zoltek, J., Jr.

Engineering: Environmental

ENV 3003 Environmental Quality and Man. F, W, S, SS.
Credits: 4
Interaction of technological and industrial man with earth's resources and the resultant effect on environmental quality. Identification of air, water, and land pollution causes, effects, and controls. Concepts of environmental management and the socio-economic and institutional factors influencing environmental quality. Intended for non-ENV majors.

ENV 3930 Undergraduate Seminar. F, W, S.
Credits: 1††
Intended for undergraduate students majoring in Environmental Engineering Sciences. Talks, lectures, and discussions on selected topics in Environmental Engineering Sciences. May be repeated with change in content up to a maximum of 3 credits.

ENV 4021 Basic Concepts of Water and Wastewater Treatment. F, S.
Credits: 4; Prereq: ENV 4514 and EES 4241 or consent of instructor.
An introduction to the basic physical, chemical and biological concepts involved in the treatment of water and wastewater.

ENV 4104 Elements of Atmospheric Pollution. F, S.
Credits: 4
The air pollution problem, causes, sources, effects. Historical development. Physical, political and economic factors in its control.

ENV 4201 Introduction to Radiological Health. F, S.
Credits: 4
A beginning course covering radiation sources, effects and protection guides. Radiation exposure and protection in medical, occupational and natural environments.

ENV 4241 Fundamentals of Radiation Protection. S.
Credits: 4; Prereq: ENU 4605 or equivalent or consent of instructor.
Radiation sources, uses, and effects on humans; examination of radiation protection literature and philosophy; practical radiation protection methods and techniques; review of radiation exposure standards, regulations, legislation.

ENV 4351 Solid Waste Management. W, SS.
Credits: 3
Generation of solid wastes. Collection methods, equipment and costs. Disposal methods, costs and methods of financing.

ENV 4404 Water Supply & Wastewater Removal. F, S.
Credits: 4
Source of supply quantity and quality requirements, collection, transmission and distribution of water. Collection, transportation and disposal of sewage and stormwater. Design of collection and distribution systems.

ENV 4431 Environmental Engineering Design I. W, SS.
Credits: 4; Prereq: ENV 4404, ENV 4514, and ENV 4021.
Design of gravity wastewater collection systems, pumping facilities, force mains, chemical, physical, and biological treatment processes.

ENV 4432 Environmental Engineering Design II. S.
Credits: 4; Prereq: ENV 4404, ENV 4514, ENV 4021, and EES 4201.
Layout of a municipal water distribution system. Design of pumping facilities, storage, chemical water treatment facilities.

ENV 4514 Treatment of Water and Wastewater. W, SS.
Credits: 4
The chemical, physical and biological treatment of water and wastewater.

ENV 4905 Individual Studies in Environmental Engineering Sciences. F, W, S, SS.
Credits: 1 to 5; Prereq: Consent of instructor.
Selected problems or projects in the student's major field of study. May be repeated with change in content up to a maximum of 12 credits.

ENV 4932 Special Problems in Environmental Engineering Sciences. F, W, S, SS.
Credits: 1 to 5
May be repeated with change in content up to a maximum of 12 credits.

ENV 4949 Co-op Work Experience. F, W, S, SS.
Credits: 1††; Prereq: 4EG classification.
One term industrial employment including extra work according to a pre-approved outline. Practical engineering work under industrial supervisor, as set forth in the College of Engineering Regulations.

GRADUATE COURSES

ENV 5005 Environmental Health.
Credits: 4

ENV 5126 Introduction to Air Pollution.
Credits: 4

ENV 5206 Survey of Radiological Health.
Credits: 4

ENV 5306 Municipal Refuse Disposal.
Credits: 3

ENV 5517 Treatment of Wastewater.
Credits: 4

ENV 5930 Special Topics in Environmental Engineering I.
Credits: 1 to 5; Maximum of 12 credits.

ENV 6006 Graduate Environmental Engineering Seminar.
Credits: 1 to 2††

ENV 6115 Air Pollution Control Design.
Credits: 4

ENV 6116 Air Pollution Sampling and Analysis.
Credits: 4

ENV 6117 Environmental Meteorology.
Credits: 4

ENV 6118 Atmospheric Dispersion Modeling.
Credits: 4

ENV 6130 Aerosol Mechanics.
Credits: 4

ENV 6211 Health Physics.
Credits: 4

ENV 6216 Radioactive Wastes.
Credits: 4

ENV 6236 Radiological Techniques.
Credits: 5

ENV 6286 Electronic Product Radiation.
Credits: 4

ENV 6355 Pollutant Transport.
Credits: 4

ENV 6409 Advanced Water Treatment Process Design.
Credits: 5

ENV 6437 Advanced Environmental Engineering Design 1.
Credits: 5

ENV 6438 Advanced Environmental Engineering Design 2.
Credits: 5

ENV 6516 Advanced Waste Treatment Operations.
Credits: 4

ENV 6606 Environmental Resource Systems.
Credits: 4

ENV 6656 Urban Environmental Problems.
Credits: 4

ENV 6666 Water Quality Management.
Credits: 4

ENV 6905 Individual Work.
Credits: 1 to 5; Maximum of 12 credits.

ENV 6910 Supervised Research.
Credits: 1 to 5††

ENV 6916 Non-Thesis Project.
Credits: 1 to 3; Maximum of 3 credits.

ENV 6932 Special Problems in Environmental Engineering.
Credits: 1 to 5; Maximum of 12 credits.

ENV 6940 Supervised Teaching.
Credits: 1 to 5††

ENV 6971 Master's Research.
Credits: 1 to 5††

ENV 7980 Doctoral Research.
Credits: 1 to 15††

Engineering: General
GRADUATE COURSES

EGN 6740 Surface Hydrology.
Credits: 4

EGN 6741 Operational Hydrology 1.
Credits: 4

EGN 6742 Operational Hydrology 2.
Credits: 4

Environmental Engineering Service

EES 2001 Concepts of Environmental Engineering Sciences. F, S.
Credits: 2
Discussions of current environmental problems and their solutions. Intended as an orientation course for future ENV majors.

EES 3008 Energy and Environment. W.
Credits: 4
Consideration of the energy basis for man and nature including principles of energy analysis, systems ecology, and public policy.

EES 4004 Environmental Engineering Sciences. F, S.
Credits: 4; Prereq: 4EG standing in the Department of Environmental Engineering Sciences or consent of instructor.
The application of engineering and scientific principles to the management of the environment as a closed system. Case studies of water, air and land pollution. Economic and ecological consideration.

EES 4035C Environmental Instrumentation. F, S.
Credits: 3; Prereq.: EEL 3003.
Basic instrumentation and instrumental techniques for the measurement of environmental parameters and pollutants.

EES 4101 Environmental Microbiology. F, S.
Credits: 4
General concepts of microbiology with emphasis on the role of microorganisms in the polluted environment and in pollution technology.

EES 4201 Water Treatment Process Design. W.
Credits: 5; Prereq: CHM 2047C or CHM 2043C or consent of instructor.
A theoretical and practical study of the examination and treatment of water.

EES 4241 Introduction to Water Analysis. F, S.
Credits: 4; Prereq: Three quarters of general chemistry.
Basic procedures of chemical analysis applied to natural and wastewaters, including sampling and interpretation of water quality.

EES 4401 Public Health Engineering. W, SS.
Credits: 4
Application of engineering principles to protect public health. Areas covered include: water supply, waste treatment, air pollution, radiological health, occupational health, milk and food sanitation, vector control, solid wastes, and housing hygiene.

GRADUATE COURSES

EES 5007 Ecological and General Systems.
Credits: 4

EES 5105 Environmental Biology.
Credits: 4

EES 5245 Water and Wastewater Analysis.
Credits: 4

EES 5306 Ecological Engineering Seminar.
Credits: 2

EES 6006 Health Hazards of Man's Environment.
Credits: 4

EES 6036 Environmental Instrumentation.
Credits: 3

EES 6106 Environmental Microbiology.
Credits: 4

EES 6136 Biology of Aquatic Systems.
Credits: 4

EES 6166 Aquatic Microbiology.
Credits: 4

EES 6207 Environmental Chemistry.
Credits: 4

EES 6208 Principles of Water Chemistry I.
Credits: 3

EES 6209 Principles of Water Chemistry II.
Credits: 3

EES 6246 Advanced Water Analysis.
Credits: 4

EES 6356 Estuarine Systems.
Credits: 4

EES 6506 Occupational Health.
Credits: 4

EES 6936 Water Science Seminar.
Credits: 1 to 5; Maximum of 9 credits.

FINANCE AND INSURANCE
College of Business Administration

INSTRUCTIONAL STAFF 1979-80

Heggestad, A.A., Chairman; Andersen, L.C.; Arditti, F.D.; Brigham, E.F.; Chiang, R.C.; Crum, R.L.; Howard, W.M.; Kolb, R.W.; McCollough, W.A.; Manaster, S.; Matthews, C.A.; Nye, D.J.; Pettway, R.H.; Radcliffe, R.C.; Richardson, J.G.

Finance

FIN 3105 Investments for Individuals. F, S.
Credits: 4
Designed for the non-Business Administration student, this course deals with the principal investment problems the individual faces. Cannot be used for credit for BSBA degree.

FIN 3233 Monetary Economics. F, W, S.
Credits: 4; Prereq: ECO 4205 or ECO 3251, 4205 or ECO 3251.
Analysis of monetary systems and the relationships between money, prices, production, and employment. Factors determining the money supply, with emphasis on the role of commercial and central banks, and money demand.

FIN 3303 Financial Institutions. W.
Credits: 4
A study of the operation of financial institutions, interrelationship between the institutions and their roles in the economic process. Cannot be used for credit for BSBA degree.

FIN 3403 Business Finance. F, W, S, SS.
Credits: 4; Prereq: ACC 2001, ACC 2301 or ACC 2401.
The acquisition and management of funds by business. Students desiring a major in Finance must achieve a grade of C or better in this course.

FIN 4244 Money and Capital Markets. F, W, S, SS.
Credits: 4; Prereq: ECO 3251.
Financial markets; their role in the macroeconomic framework; the flow of funds and the determinants of their market price; the nature of the different markets and their role in the firm's financial decisions.

FIN 4313 Financial Management of Financial Institutions. F, S, SS.
Credits: 4; Prereq: FIN 4244.
A study of managerial finance in the setting of a financial institution. The unique problems of the several types of institutions as defined by regulation and practice.

FIN 4414 Business Finance Topics. F, W, S, SS.
Credits: 4; Prereq: FIN 3403.
Examination of some major areas of Business Finance such as capital budgeting and cost of capital and a consideration of new topics such as mergers, failures and reorganization.

FIN 4424 Applied Business Finance. F, S, SS.
Credits: 4; Prereq: FIN 4414, or consent of the instructor.
A study of certain business finance problems. The case method will be used. Students will prepare written solutions to case problems and present oral/visual solutions in class.

FIN 4504 Investments. F, W, S, SS.
Credits: 4; Prereq: FIN 3403.
Nature of investments; investment policies; analysis of securities; the mechanics and mathematics of security purchases; factors influencing security prices, and the nature of the New York Stock Exchange.

††Grading is on S-U basis only.

FIN 4514 Investment Analysis. W, S, SS.
Credits: 4; Prereq. FIN 4504.
The analysis of public utility, railroad, and general corporate securities; the supervision of the security industry; factors influencing security values.

FIN 4604 International Finance. S.
Credits: 4; Prereq: FIN 3403, FIN 4244.
A study of financial problems encountered by firms operating in the international environment.

FIN 4934 Special Topics. F, W, S, SS.
Credits: 1 to 5; Prereq: Permission of department.
Course of variable content providing an opportunity for study in depth of topics not offered in other courses and of topics of special current significance. May be repeated with a change in content up to a maximum of 10 credits.

GRADUATE COURSES

For admission to graduate courses, the student must have been admitted to the Graduate School and normally should have had undergraduate courses in fields pertinent to the graduate courses selected; or where necessary, special arrangements may be made with the approval of the Department chairman.

Though no graduate major may be completed without adequate course work on the 6000 or higher level, certain undergraduate courses in finance and insurance are available for graduate credit as part of a candidate's major. These are FIN 4135 Group Insurance and FIN 4805 Estates, Trusts and Insurance.

FIN 5354 Financial Markets and Institutions.
Credits: 4; Prereq: Intermediate Macroeconomics or consent of the instructor.

FIN 5405 Business Financial Management.
Credits: 4

FIN 5425 Corporation Finance.
Credits: 4; Prereq: FIN 4414 or consent of the instructor.

FIN 5525 Security Markets and Pricing.
Credits: 4; Prereq: FIN 5405 or consent of the instructor.

FIN 6246 Money and Capital Markets.
Credits: 5

FIN 6446 Problems in Corporation Finance.
Credits: 5

FIN 6456 Quantitative Analysis of Financial Decisions.
Credits: 5

FIN 6626 International Finance: Monetary Systems.
Credits: 5

FIN 6816 Seminar in Investments.
Credits: 5

FIN 6826 Problems in Commercial Banking.
Credits: 5

FIN 6905 Individual Work in Finance.
Credits: 1 to 5

FIN 6940 Supervised Teaching.
Credits: 1 to 5††

FIN 6971 Master's Research.
Credits: 1 to 15††

FIN 7808 Theory of Finance I.
Credits: 5

FIN 7809 Theory of Finance II.
Credits: 5

FIN 7938 Finance Research Workshop.
Credits: 4

††Grading is on S-U basis only.

FIN 7980 Doctoral Research.
Credits: 1 to 15††

Risk Management & Insurance

RMI 3015 Risk and Insurance. F, W, S, SS.
Credits: 4
Identification of various types of risk; principles underlying selection of appropriate means of handling risks; analysis of insurance as a principle means; organization and operation of insurance companies.

RMI 3215 Property Insurance.
Credits: 4; Offered by correspondence only.
A continuation of RMI 3217 dealing with casualty insurance, bonds and agency managements.

RMI 3217 Property Insurance—Fire and Marine Insurance.
Credits: 4; Offered by correspondence only.
The broad, basic principles underlying Fire and Marine Insurance.

RMI 4120 Health Insurance S.
Credits: 4
Public and private mechanisms for meeting financial risks of sickness and injury.

RMI 4135 Group Insurance and Pension Plans. S.
Credits: 5; Prereq: RMI 3015 or RMI 3105.
Group life and health insurance; pension and profit sharing plans.

RMI 4305 Risk Management. S.
Credits: 5; Prereq: RMI 3015 or consent of instructor.
A course in applied risk theory. Topics include estimation of risk, determination of methods of handling risk, optimal levels of self insurance and deductibles, and estimation of necessary amounts of reserves.

RMI 4805 Estates, Trusts and Insurance. W.
Credits: 4; Prereq: RMI 3015 or consent of instructor.
Estate planning; coordination of life insurance with other assets; living and testamentary trusts; life insurance trusts; wills; guardianships; and tax aspects of estate planning.

RMI 4905 Independent Research. F, W, S, SS.
Credits: 1 to 5; Prereq: Senior standing and previous work in the area selected for research.
Admission is by the consent of the department. A written report or reports will be required.

GRADUATE COURSES

RMI 6195 Seminar in Life Insurance.
Credits: 5

RMI 6296 Seminar in Property and Liability Insurance.
Credits: 5

RMI 6910 Supervised Research.
Credits: 1 to 5††

RMI 6936 Problems in Risk Management.
Credits: 3

FINE ARTS
College of Fine Arts

HUM 2510 Introduction to the Fine Arts. F, S.
Credits: 4
An introduction to the disciplines, activities and purposes of the Fine Arts.

FOOD AND RESOURCE ECONOMICS
INSTRUCTIONAL STAFF 1979-80

Polopolus, L., Chairman; Andrew, C.O.; Boggess, W.G.; Carriker, R.R.; Cato, I.C.; Clark, H.B.; Colette, W.A.; Covey, C.D.; Davis, C.G.; Dow, J.K.; Drummond, R.A.; Eastwood, R.A.; Emerson, R.D.; Fairchild, G.F.; Gilbert, E.H.; Gunter, D.L.; Holt, J.; Hooks, R.C.; Kepner, K.W.; Kiker, C.F.; Kilmer, R.L.; Langham, M.R.; Lee, J.; Lynne, G.D.; Mathis, K.; McPherson, W.W.; Melton, B.E.; Milon, J.W.; Mulkey, W.D.; Prochaska, F.J.; Reynolds, J.E.; Simpson, J.R.; Shonkwiler, J.S.; Smith, C.N.; Spreen, T.; Strain, J.R.; Tilley, D.S.; Upchurch, M.L.; van Blokland, P.J.; Wall, G.B.; Ward, R.W.; Wershow, J.S.; Zepp, G.A.

Agricultural Economics & Business

AEB 2014 Current Economic Issues, Food and You. F, S.
Credits: 2
This introductory course emphasizes the role of agriculture and economics in your life. The how's and why's of their influence on such things as prices and the world food situation; the environment, energy and government policy; and the current economic issues; including inflation and money.

AEB 3103 Principles of Food and Resource Economics. F, W, S, SS.
Credits: 5
An introduction to the field of food and resource economics; principles of economics as applied to agriculture; economic problems of the agricultural industry and the individual farmer.

AEB 3111 Computers and Linear Programming for Agriculture. F, W, S, SS.
Credits: 3
A basic understanding of the way computers operate and how they can be used. The use of computers is taught in connection with solving linear programming problems using standard routines. Linear programming problems deal with least cost ration formulation and maximum profit farm organization.

AEB 3123 Law Applied to Agriculture. F, W.
Credits: 4
Legal aspects of agricultural rights, responsibilities, and problems. Topics include agricultural estate and income taxation, zoning and land use planning, agricultural labor and consumer protection.

AEB 3133 Farm Firm Management. F, W, S, SS.
Credits: 5; Prereq: AEB 3103.
Introduction to management principles. Application of economic principles, budgeting techniques and principles of strategy in agricultural firm management in the United States, particularly Florida. Emphasis is given to the financial and tax management strategies and the requirements imposed on agricultural management by local, state, and federal government regulatory agencies.

AEB 3141 Agricultural Finance and Rural Appraisal. W, SS.
Credits: 4; Prereq: AEB 3133.
An introduction to the sources and uses of finance in Agriculture. Topics include time and money, financial management; investment appraisal; financial trends and land appraisal.

AEB 3300 Marketing. F, W, S, SS.
Credits: 5; Prereq: AEB 3103.
Basic principles of marketing emphasizing the value added to commodities from farms to consumers. The economic organization and operation of the food and fiber sector of the U.S. economy. Elementary price analysis and the marketing system for agricultural inputs and outputs. One field trip usually required.

AEB 3306 Agricultural Commodity Marketing. W, S.
Credits: 3
Basic elements and principles of agricultural commodity marketing, including special focus upon marketing problems and issues affecting the livestock, dairy, poultry, citrus, vegetable and ornamental industries. Student participation in a computerized futures trading game required.

AEB 3413 Economics of Environmental Quality. F.
Credits: 4; Prereq: AEB 3103 or equivalent.
The environmental quality problem in relation to current technology, economic principles, legal and political constraints, and institutions. The applicability of these principles as related to specific problems: water and air pollution, agricultural insecticides, noise, congestion, aesthetic values, recreation.

AEB 3934 Food and Resource Economics Junior Seminar. F, W.
Credits: 1
An introduction to the programs, problems, sources of data and other information, and analytical techniques in food and resource economics.

AEB 4152 Farm Business Analysis. F.
Credits: 4; Prereq: AEB 3133 and consent of instructor.
Application of business, financial and economic principles in the successful management of a farm. Decision making under uncertainty on the farm, constrained by individual farm and farmer objectives. Analysis of farms using the farm game techniques. Includes visits with agribusinesses, farmers and farm management extension staff.

AEB 4164 Management of Farms in Tropical Areas. F.
Credits: 5; Prereq: AEB 3103
To provide some understanding of decision making, farming techniques and farmers' objectives on farms in developing countries. The course also covers some developing country socio-economic characteristics and attempts to involve economic principles, risk management and planning within their characteristics. Should be substituted for AEB 3133 for foreign students.

AEB 4172 Basic Activity Analysis for Economic Decisions. W, S.
Credits: 4; Prereq: AEB 3103 and STA 3023.
Basic activity analysis applied to problems of agricultural and forestry firms. Application of linear programming methods to problems of planning over time, space, and form, with an introduction to standard linear programming computer routines and other selected operations research and systems analysis techniques.

AEB 4224 Public Policy in Agriculture. W, S.
Credits: 4
A history of farmer attempts and accomplishments through organization and legislation to improve the economic and social status of agriculture. The basic problems and concepts involved in developing and carrying out agricultural policy. Evaluation of present legislative programs and policies affecting the farmer.

AEB 4314 Terminal Markets and Commodity Exchanges. S.
Credits: 2; Prereq: Consent of Instructor.
Terminal market organization and facilities for agricultural products, including the commodity exchanges. Visitation and inspection of firms and facilities in large terminal markets in the East or Midwest will entail a field trip of eight to ten days. This field trip will be taken during the interim between winter and spring quarters. A fee of $80.00 for a laboratory field trip is required. An additional sum may be required at the time the trip is made. Participation in this course is contingent upon notifying the instructor of intent not later than 20 days before the beginning of the examination period for the winter quarter.

AEB 4324 Production Decisions of Agricultural Firms. F, S.
Credits: 4; Prereq: AEB 4511
Quantitative approach is used to study production decisions confronted by the management in agricultural firms.

AEB 4334 Agricultural Price Analysis and Consumer Behavior. F, S.
Credits: 4; prereq: AEB 3103, AEB 4511 and ECO 3100.
Quantitative measurement of factors affecting agricultural prices; seasonal and cyclical fluctuations; index measures of price and quantity variables; theory and application of consumer behavior principles.

AEB 4343 Food Wholesaling. W.
Credits: 3
Exposes the student to all major aspects of operating a wholesale warehouse. These aspects are: buying, receiving, accounting, handling and storing, selecting, loading and shipping, and labor management. Student observes actual warehouse operations in a variety of warehouses—food, general and specialized, and non-food.

AEB 4344 Principles and Practices of Food Retailing. S.
Credits: 3
The importance of food retailing to the consumer, agriculture and the nation's food system. Principles and practices of food merchandizing. Organization, operations and economics of food stores. Individual attention to each store, department and product category. Special emphasis on productivity of major resources—human, physical, financial. Management methods and sales techniques are included.

AEB 4421 Agricultural Labor Economics. W.
Credits: 3; Prereq: AEB 3103.
Survey course primarily for students in related agricultural disciplines. Topics covered include agricultural, labor policies and regulations, agricultural labor management, labor relations, and collective bargaining in agriculture.

AEB 4434 Land and Water Economics. W.
Credits: 4; Prereq: AEB 3103 and ECO 3100.
Principles governing the use of land and water in Florida with emphasis on supply, demand, allocation, valuation, conversation location, development, property rights, externalities, planning and taxation.

AEB 4444 Regional Economics and Policy Analysis. S.
Credits: 5
Theory and practice of community and regional policy analysis. Theories of regional growth and policy implications, techniques of regional analysis, and programs to influence spatial distribution of economic activity.

AEB 4511 Quantitative Analysis in Food and Resource Economics. F, W, S.
Credits: 4; Prereq: MAC 3311.
Application of calculus and matrix algebra to topics in food and resource economics.

AEB 4672 International and Interregional Trade in Agriculture. W.
Credits: 3; Prereq: AEB 3300, equivalent or consent of instructor.
Behavior of economic forces associated with trade in food and agricultural products between Florida and other regions in the U.S. and between countries. Economic principles and analytical techniques applied to the study of supply, demand and prices for Florida and U.S. imports and exports of agricultural commodities. Consideration of the competitive position of Florida agriculture is state, national, and foreign markets.

AEB 4726 Income and Employment of Rural People. F.
Credits: 5; Prereq: AEB 3103 or ECO 3100 and ECO 3251.
Effects of economic, technical and institutional conditions upon employment and incomes of rural people. Analysis of poverty and poverty programs. The human agent and group decision making in rural economic development.

AEB 4905 Special Problems in Food and Resource Economics. F, W, S, SS.
Credits: 1 to 6; Prereq: Consent of instructor.
Individual study in selected problem areas. Aspects of problems of interest to the student and agreeable to the instructor. May be repeated with change of content up to a maximum of 6 credits.

AEB 4931 Special Topics in Food and Resource Economics. F, W, S, SS.
Credits: 1 to 3; Prereq: Consent of instructor.
Lectures, conferences or laboratory covering specially selected topics in food and resource economics. May be repeated with change of content up to a maximum of 6 credits.

AEB 4935 Food and Resource Economics Senior Seminar. W, S.
Credits: 1; Prereq: Senior classification and AEB 3103.
Lectures and discussions on current problems and special areas of interest in Food and Resource Economics. Students make reports on approved topics.

AEB 4941 Full Time Practical Work Experience in Food and Resource Economics. F, W, S, SS.
Credits: 1 to 4††; Prereq: Prior arrangement with advisor, approval of Department Chairman and Dean.
Practical work must be a new experience and related to the field of study.

GRADUATE COURSES
Food and Resource Economics

AEB 5612 Foreign Agricultural Development Planning
Credits: 5

AEB 6182 Intermediate Agricultural Production Economics
Credits: 4

AEB 6184 Economics of Agricultural Production I
Credits: 5

AEB 6186 Economics of Agricultural Production II
Credits: 5

AEB 6252 Foundations of Agricultural Policies
Credits: 3

AEB 6263 Agricultural Policies and Programs in the U.S.
Credits: 3

AEB 6363 Intermediate Consumption Economics and Agricultural Marketing
Credits: 4

AEB 6373 Consumption and Demand
Credits: 5

AEB 6383 Industrial Organization of Agricultural Markets
Credits: 4

AEB 6384 Marketing Economics in Agriculture
Credits: 4

AEB 6385 Management Strategies for Agribusiness Firms
Credits: 4

AEB 6429 Research Seminar in Econometrics
Credits: 1 to 5

AEB 6453 Natural Resource Economics
Credits: 4

AEB 6455 Natural Resource Institutions
Credits: 4

AEB 6465 Natural Resource Policy
Credits: 4

AEB 6483 Regional Policy and Development
Credits: 5

AEB 6533 Nonstochastic Models
Credits: 5

AEB 6553 Elements of Econometrics
Credits: 4

AEB 6571 Econometric Methods I
Credits: 5

AEB 6572 Econometric Methods II
Credits: 5

Descriptions

FOOD SCIENCE AND HUMAN NUTRITION

AEB 6592 Activity Analysis for Economic Decisions
Credits: 4

AEB 6625 Regional Economics
Credits: 5

AEB 6634 Agricultural Development Administration
Credits: 4

AEB 6645 Economic Development and Agriculture
Credits: 5

AEB 6651 Agriculture's Role in he Growth of Latin American Nations
Credits: 4

AEB 6674 International Agricultural Policy and Trade
Credits: 5

AEB 6727 Rural Welfare and Development Policy
Credits: 5

AEB 6815 Science and Research Methodology
Credits: 3

AEB 6905 Problems in Food and Resource Economics
Credits: 1 to 6; max: 6

AEB 6910 Supervised Research
Credits: 1 to 5††; max: 9

AEB 6933 Special Topics
Credits: 1 to 9; max: 9

AEB 6940 Supervised Teaching
Credits: 1 to 5††

AEB 6971 Master's Research
Credits: 1 to 15††

AEB 7980 Doctoral Research
Credits: 1 to 15††

FOOD SCIENCE AND HUMAN NUTRITION
College of Agriculture

INSTRUCTIONAL STAFF 1979-80

Kirk, J.R., Chairman; Adams, J.P.; Ahmed, E.M.; Appledorf, H.; Bailey, L.B.; Bates, R.P.; Deng, J.; Dinning, J.S.; Gregory, J.F.; Koburger, J.A.; Matthews, R.F.; Moye, H.A.; Oblinger, J.L.; Robbins, R.C.; Schmidt, R.H.; Thompson, N.P.; Wagner, P.A.; Wheeler, W.B. The following faculty from other departments and units instruct in the Food Science program: Bachman, K.C.; Baird, C.D.; Braddock, R.J.; Crandall, P.G.; Edds, G.T.; Emerson, A.P.; Janky, D.M.; Marcy, J.E.; Smith, K.L.; Thomas, W.C.; West, R.L.

Dietetics

DIE 4125 Food Systems Management. F.
Credits: 4; Prereq: FOS 3042 and HUN 3221.
Aspects of quantity food service systems; technological developments; management and physical facilities.

DIE 4244 Nutrition and Disease. W.
Credits: 4; Prereq: HUN 4241.
Diseases related to nutrient intake; nutritional requirements created by diseases. These will be coordinated with analysis of diets used in medical treatments.

Food Science

FOS 2001 Man's Food. F, W, S.
Credits: 2
World population and food problems. Relationship of man's health to production, conservation and consumption patterns.

FOS 2002 Food and Consumer Protection. F.
Credits: 2
Technological problems and changing attitudes toward new products, new food sources, food labelling additives, nutrition, wholesomeness, sanitation, pollution and the responsibilities of the food industry.

FOS 2003 Toxic Substances in Foods. S.
Credits: 1
Historical development, the current status of the problem areas and the impact upon society of hazards in foods will be discussed from a non-technical standpoint.

FOS 3042 Introductory Food Science. F, S.
Credits: 4; Prereq: CHM 2041.
The student will be exposed to the commodities selected for human consumption and the methods used by food technologists to prolong shelf life, retard spoilage and ensure quality. The principles upon which the various processing methodologies are based will be stressed.

FOS 4205C Food Plant Sanitation. S.
Credits: 3; Prereq: FOS 3042.
Principles of food plant sanitation including chemical and physical treatments, insect and vermin control, compliance procedures and laws governing these procedures.

FOS 4222C Food Microbiology. W.
Credits: 5; Prereq: MCB 3020 and MCB 3020L.
Sources of biological contamination and their control during harvesting, handling, processing and storage of foods; food fermentation; Hygiene and sanitation; and methods used to examine foods for total microbial content and for specific groups of organisms.

FOS 4252 Food Epidemiology. W.
Credits: 4; Prereq: HUN 2201, FOS 4222C, or consent of instructor.
Introduction to the principles and practices of epidemiology with special emphasis on the epidemiological aspects of foodborne, waterborne and nutritional diseases.

FOS 4311C Food Chemistry. F.
Credits: 5; Prereq: FOS 3042, Organic Chemistry.
Relationship of composition to the properties of foods and the changes which occur during processing, storage and utilization.

FOS 4321C Food Analysis. S.
Credits: 5; Prereq: FOS 4311C, Physics.
Principles and practice of physical and chemical methods for analyzing foods.

FOS 4427C Principles of Food Processing. W.
Credits: 5; Prereq: FOS 3042, FOS 4311C, FOS 4222C; or consent of instructor.
Principles of processing and preserving foods by cooling, freezing, heating, and dehydrating, concentrating, irradiating, fermenting and use of chemicals.

FOS 4522C Seafood Technology. F.
Credits: 4; Prereq: FOS 3042, CHM 2041 or consent of instructor.
Processing principles and methods of preparation of various seafood products and control of product quality.

FOS 4551C Fruit, Vegetable and Citrus Processing. W.
Credits: 4; Prereq: CHM 2042.
Principles and application of processing methods for fruits and vegetables and the control of product quality.

FOS 4722C Statistical Quality Control and Sensory Evaluation of Foods. W.
Credits: 3; Prereq: STA 3023; 8 credits of FOS 4000 level course work recommended.
Application of statistics and sensory evaluation to selection of raw products and quality control during processing, storage and marketing.

FOS 4731 Government Regulations and the Food Industry. F.
Credits: 2
Governmental laws and rules regulating food wholesomeness and freedom from disease causing agents; food handling, processing and distribution under sanitary conditions; food ingredients and the labeling of food and food type products.

FOS 4905 Special Problems in Food Science and Human Nutrition. F, W, S, SS.
Credits: 1 to 7
Individual research work in various phases of Food Science. May be repeated up to a maximum of 7 credits.

FOS 4931 Food Science and Human Nutrition Seminar. S.
Credits: 1

FOS 4936 Topics in Food Science and Human Nutrition. F, W, S, SS.
Credits: 1 to 5; Prereq: Consent of instructor.
Lectures, conferences or laboratory covering specially selected topics in food science and human nutrition. May be repeated with change of content up to a maximum of 7 credits.

FOS 4941 Full Time Practical Work Experience in Food Science and Human Nutrition. F, W, S, SS.
Credits: 1 to 4; S-U Grade only. Prereq: Prior arrangement with adviser, approval of Department Chairman and Dean. One term employment in food industry including extra work according to a pre-approved outline. Practical work under industrial supervision as set forth in College of Agriculture regulations.

Human Nutrition

HUN 2201 Fundamentals of Human Nutrition. W.
Credits: 4
The properties, functions, requirements, interrelationships and metabolism of nutrients. In order to satisfy the nutrition requirement of the American Dietetic Association it is necessary to take HUN 3221.

HUN 3221 Introduction to Human Nutrition. S.
Credits: 4; Prereq: APB 3223, BCH 3023, CHM 3200.
This course will serve as an introduction to aspects of food habits, food resources and diet in health and disease. The metabolic relationships of various food constituents will be discussed with emphasis upon their roles in physiological processes as well as variations of nutritional requirements in response to stress situation.

HUN 3246 Agricultural and Nutritional Biochemistry. W, S.
Credits: 4; Prereq: Organic Chemistry or consent of instructor.
An introduction to biochemistry with emphasis on intermediary metabolism. Fundamentals of structures and reactions involving biochemical molecules will be covered stressing integration and regulation of biochemical processes in plants and animals.

HUN 4241 Human Nutrition. S.
Credits: 4; Prereq: HUN 3221.
A discussion of the chemical, physiological and cultural considerations underlying the application of nutrition to the human.

The following courses are offered through other departments in the College of Agriculture and are part of the overall Food Science and Human Nutrition program. Certain of these courses are required in the Food Science curriculum as detailed in the College of Agriculture general information section of the catalog.

ANS 4635 Meat Processing. S.
Credits: 4; Prereq: CHM 2041 and MAC 1132.
Methods used for processing and the Federal and State Regulations for meat.

††Grading is on S-U basis only.

DAS 4614 Dairy Technology. F.
Credits: 5
Nature and properties of milk constituents; effects of processing on milk constituents; defects in dairy foods and their causes; dairy foods processing; and analytical procedures for processing and quality control.

MAC 4062 Principles of Food Engineering. F.
Credits: 5; Prereq: MAC 1132 and 5 credits of physics.
The functional requirements and principles of operation of systems for handling and processing of food and agricultural products.

PSE 4611 Poultry Products Technology. W.
Credits: 4; Prereq: ASG 3003.
Processing methods, composition, nutritive value, flavor, palatability and shelf-life of poultry, meat and eggs.

VES 4611 Environmental Toxicology and Public Health. W.
Credits: 4; Prereq: Organic Chemistry.
Drugs and toxicants, their metabolism as influenced by food or residues; drugs induced deficiency diseases; adverse reactions; mycotoxins; common poisons, their diagnosis, prevention and treatment.

GRADUATE COURSES

Food Science

FOS 6226C Advanced Food Microbiology.
Credits: 4

FOS 6229C Determinative Food Microbiology.
Credits: 4

FOS 6315C Advanced Food Chemistry.
Credits: 4

FOS 6316 Proteins in Food Systems.
Credits: 3

FOS 6317 Lipids in Food Systems.
Credits: 3

FOS 6355C Instrumental Analysis and Separations.
Credits: 5

FOS 6371C Pesticide Analysis.
Credits: 4

FOS 6428C Food Processing Systems.
Credits: 4

FOS 6429C Food Processing Mechanics.
Credits: 3

FOS 6435C Food Product Development.
Credits: 4

FOS 6455C Industrial Food Fermentations.
Credits: 4

FOS 6726C Psychophysical Aspects of Foods.
Credits: 4

FOS 6905 Problems in Food Science and Human Nutrition.
Credits: 1 to 6; maximum of 12 credits.

FOS 6910 Supervised Research.
Credits: 1 to 5††

FOS 6915 Research Planning.
Credits: 2

FOS 6936 Topics in Food Science and Human Nutrition.
Credits: 1 to 4; maximum of 6 credits.

FOS 6938 Food Science and Human Nutrition Seminar.
Credits: 1

FOS 6940 Supervised Teaching.
Credits: 1 to 5††

FOS 6971 Master's Research.
Credits: 1 to 15††

FOS 7980 Doctoral Research.
Credits: 1 to 15††

Human Nutrition

HUN 6191 Nutritional Status and Food Policy.
Credits: 2

HUN 6245 Advanced Human Nutrition.
Credits: 4

HUN 6292 Current Topics in Human Nutrition.
Credits: 3

HUN 6301 Nutritional Aspects of Carbohydrates and Lipids.
Credits: 4

HUN 6321 Proteins and Amino Acids in Nutrition.
Credits: 3

HUN 6331 Vitamins and Minerals in Human Nutrition.
Credits: 4

HUN 6921 Colloquium in Human Nutrition.
Credits: 1

HUN 6812C Analytical Techniques in Nutrition Research: Biological and Radiochemical.
Credits: 4

HUN 6971 Research for Master's Thesis.
Credits: 1 to 15††

HUN 7980 Research for Doctoral Dissertation.
Credits: 1 to 15††

FOREIGN LANGUAGES
College of Arts and Sciences

Foreign Language — Cross Departmental**

Foreign and Biblical Languages

FOL 2905 Individual Work in Foreign Languages. F, W, S.
Credits: 3 to 5; Prereq: Permission of the department.

FOL 3730 Introduction to African Linguistics. W.
Credits: 4; Prereq: LIN 2010 or equivalent.
A linguistic survey of sub-Saharan African languages.

FOL 4905 Individual Work. F, W, S, SS.
Credits: 3 to 5; Prereq: Permission of the department.

CHINESE

Chinese**

INSTRUCTIONAL STAFF 1979-80
Ch'u, C.C.; Johnson, I.

Chinese Language

CHI 1120 Beginning Chinese 1. F.
Credits: 5

CHI 1121 Beginning Chinese 2. W.
Credits: 5; Prereq: CHI 1120 (grade of C or better, or S) or equivalent.

CHI 1122 Beginning Chinese 3. S.
Credits: 5; Prereq: CHI 1121 (grade of C or better, or S) or equivalent.

CHI 2201 Second-Year Chinese.
Credits: 4; Prereq: CHI 1122 or equivalent.

CHI 2202 Second-Year Chinese.
Credits: 4; Prereq: CHI 2201 or equivalent.

CHI 3500 Chinese Culture. F.
Credits: 4
An introduction to Chinese culture with emphasis on its philosophy, language, literature, art and people as a whole. All readings in English.

JAPANESE

Japanese**

INSTRUCTIONAL 1979-80
Swann, T.

Japanese Language

JAP 1120 Beginning Japanese 1. F.
Credits: 5

JAP 1121 Beginning Japanese 2. W.
Credits: 5; Prereq: JAP 1120 (grade of C or better, or S) or equivalent.

JAP 1122 Beginning Japanese 3. S.
Credits: 5; Prereq: JAP 1121 (grade of C or better, or S) or equivalent.

GERMANIC AND SLAVIC LANGUAGES AND LITERATURES

INSTRUCTIONAL STAFF 1979-80
Johnston, O.W., Chairman; Barksdale, E.C.; Kraft, H.W.; Loyd, R.T.; Marshall, H.B.; Rennert, H.H.; Sullivan, W.J.; Undergraduate Coordinator: D.M. Popp; Graduate Coordinator: C.J. Gellinek.

Students who have had previous formal training in German or Russian at another institution are required to take a placement test before registering.

An undergraduate major is offered in both German and Russian. Students interested in these programs should consult a departmental adviser at the earliest opportunity. The major consists of 40 quarter hours above the second-year college level (GER 2200 or equivalent) including the departmental requirements GER 4840 or RUS 4700 (for Russian students).

NCATE requirements formulated by the College of Education have to be met if Florida Teacher Certification is desired.

A student majoring in German or Russian who desires to be graduated with departmental honors should apply to the department near the end of his junior year. To qualify for departmental honors, the student must achieve a 3.5 grade point average in all courses in his major field above the GER 2200 level. An additional requirement is that the student complete with distinction a special project assigned as honors work during the Senior year, and be recommended by three or more members of the departmental staff.

German Language

GER 1120 Beginning German 1. F, W, S, SS.
Credits: 5

GER 1121 Beginning German 2. F, W, S, SS.
Credits: 5; Prereq: GER 1120 (grade of C or better or S), or the equivalent.

GER 1122 Beginning German 3. F, W, S, SS.
Credits: 5; Prereq: GER 1121 (grade of C or better or S), or the equivalent.

GER 2200 Readings in German Culture. F, W, S.
Credits: 4; Prereq: GER 1122, or the equivalent.

GER 2250 Readings in Scientific German, F, W.
Credits: 4; Prereq: GER 1122, or the equivalent.

GER 3410 Understanding and Speaking German. F, S.
Credits: 4, Prereq: GER 2200, or the equivalent.

GER 3420 Speaking and Writing German. W, SS.
Credits: 4; Prereq: GER 2200, or the equivalent.

††Grading is on S-U basis only.

Descriptions

FOREIGN LANGUAGES

GER 3500 The Impact of German Culture. F.
Credits: 4; Prereq: GER 2200.
Introduction to German culture, with emphasis on the development of the Humanities.

GER 3501 The Contemporary German. W.
Credits: 4; Prereq: GER 2200.

German Literature in Translation

GET 2480 Introduction to Modern German Literature in Translation. F.
Credits: 4; Prereq: None. Not for major credit.

German Literature (Writings)

GEW 2930 Variable Languages; Danish, Dutch, Norwegian, Swedish.
Credits: 5 to 15

GEW 3100 Masterpieces of German Literature 1. W.
Credits: 5; Prereq: GER 2200, or the equivalent.
Study of representative texts from the Old High German period to Martin Optiz.

GEW 3101 Masterpieces of German Literature 2. S.
Credits: 5; Prereq: GER 2200, or the equivalent.
Study of representative texts from the Classical Period to the present time.

COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES

German Language

GER 4400 Advanced Speaking and Writing. F.
Credits: 4; Prereq: GER 3420, or the equivalent.

GER 4840 The Evolution of the German Language. W.
Credits: 4; Prereq: GER 3410 and GER 3420, or the equivalent.

German Literature (Writings)

GEW 4300 Trends in the German Theater. W, SS.
Credits: 4; Prereq: GER 3410-3420 and GER 3100-3101, or the equivalent.

GEW 4332 German Love and Death Poetry. S.
Credits: 4; Prereq: GER 3410-3420 or the equivalent.

GEW 4400 Minstrels and Storytellers. S.
Credits: 4; Prereq: Departmental approval.

GEW 4513 Reason Versus Genius. F.
Credits: 4; Prereq: GER 3410-3420 and GER 3100-3101, or the equivalent.

GEW 4530 The Golden Age.
Credits: 4; Prereq: GER 3410-3420 and GER 3100-3101, or the equivalent.

GEW 4542 Romantics and Revolutionaries.
Credits: 4; Prereq: GER 3410-3420 and GER 3100-3101, or the equivalent.

GEW 4554 German Literature and Social Change. W.
Credits: 4; Prereq: GER 3410-3420 and GER 3100-3101, or the equivalent.

GEW 4730 Kafka, Hesse, Brecht and Grass. F.
Credits: 4; Maximum 16 credits. Prereq: GER 3100, 3101, or the equivalent.

GEW 4750 Women in German Literature. F.
Credits: 4; Prereq: GER 3410-3420 and GER 3100-3101, or the equivalent.
A variable content course, focusing on the figure of women in literature, female writers, and female critics.

††Grading is on S-U basis only.

GEW 4820 Foundations of Literary Study. F.
Credits: 5; Prereq: GER 3410-3420 and GER 3100-3101, or the equivalent.

GEW 4905 Individual Work. F, W, S, SS.
Credits: 1 to 5
Available only by special arrangement. May be repeated with change of content to a maximum of 16 credits.

GRADUATE COURSES

German Language

GER 6050 Beginning German for Graduate Students 1. F, S.
Credits: 4††

GER 6051 Beginning German for Graduate Students 2. W. SS.
Credits: 4

GER 6405 Advanced Speaking and Writing Exercises.
Credits: 4

GER 6841 The Bible in Gothic.
Credits: 5

GER 6845 The Evolution of the German Language. W.
Credits: 4

German Literature (Writings)

GEW 6305 Studies in German Drama and Theater. W, SS.
Credits: 4

GEW 6335 Studies in German Poetry. S.
Credits: 4

GEW 6401 Middle High German Love Poetry.
Credits: 4

GEW 6405 Introduction to Middle High German Literature.
Credits: 4

GEW 6425 Fate, Fortune and Frivolity. W.
Credits: 5

GEW 6489 Post-War Literature: East and West.
Credits: 5

GEW 6517 Eighteenth Century German Literature. F.
Credits: 4

GEW 6535 Studies in German Classical Literature.
Credits: 4

GEW 6545 Studies in Romantic or Post-Romantic Literature.
Credits: 4

GEW 6558 Nineteenth Century German Literature. W.
Credits: 4

GEW 6600 The Genius of Goethe. S.
Credits: 5

GEW 6735 Studies in Modern German Literature. F.
Credits: 4

GEW 6755 The Contribution of Women in German Literary History.
Credits: 4

GEW 6825 Foundations of German Literary Criticism.
Credits: 5; max. of 15.

GEW 6900 Special Study in Germanic Languages and Literature.
Credits: 5; maximum of 15 credits.

GEW 6905 Individual Work.
Credits: 1 to 5; maximum of 16 credits.

GEW 6910 Supervised Research.
Credits: 1 to 5††

GEW 6938 Seminar in Germanic Studies.
Credits: 5
Rotating topics.

GER 6940 Supervised Teaching.
Credits: 1 to 5††

GEW 6971 Master's Research.
Credits: 1 to 15††

Foreign Languages—Comparative Literature

FOW 2202 Film in the 20th Century: Germany, Russia, Scandinavia,The New German Cinema
Credits: 4; Prereq: 2UF Standing
Contemporary German film makers: Herzog, Fossbinder, Schlondorff, Geissendorfer, Wenders. Study of films and literary/cultural sources, coordinated with Reitz Union film program.

Icelandic Literature (Writings)

ICW 6400 The Viking Sagas. S.
Credits: 4

ICW 6401 Readings in Sagas and Scaldic Poetry.
Credits: 4

Polish Language

POL 1120 Beginning Polish 1. F.
Credits: 5

POL 1121 Beginning Polish 2. W.
Credits: 5; Prereq: POL 1120 (grade of C or better or S), or the equivalent.

POL 1122 Beginning Polish 3. S.
Credits: 5; Prereq: POL 1121 (grade of C or better or S), or the equivalent.

POL 1130 Intensive Polish. S, SS.
Credits: 5 to 15
The equivalent of Polish, 1120-1121-1122. Beginning Polish sequence.

POL 2210 Intermediate Polish. F, SS.
Credits: 1 to 15

Polish Literature (Writings)

PLW 4102 Polish Literature.
Credits: 5
With change of content may be repeated for credit twice.

PLW 4905 Individual Work. F, W, S, SS.
Credits: 1 to 15

Russian Language

RUS 1120 Beginning Russian 1. F, W.
Credits: 5

RUS 1121 Beginning Russian 2. W, S.
Credits: 5; Prereq: RUS 1120 (grade of C or better or S), or the equivalent.

RUS 1122 Beginning Russian 3. S, SS.
Credits: 5; Prereq: RUS 1121 (grade of C or better or S), or the equivalent.

RUS 2200 Second Year Russian. F.
Credits: 4; Prereq: RUS 1122 or the equivalent.

RUS 3240 Oral Practice in Russian. W.
Credits: 4; Prereq: RUS 2200 or the equivalent.

RUS 4300 Advanced Grammar and Composition. S.
Credits: 4; Prereq: RUS 3240 or the equivalent.

RUS 4700 Structure of the Russian Language. F.
Credits: 4; Prereq: RUS 3240 or the equivalent.

RUS 4840 History of the Russian Language. S.
Credits: 4; Prereq: RUS 2200 or the equivalent.

RUS 4905 Individual Work. F, W, S, SS.
Credits: 1 to 4; Prereq: RUS 2200 or the equivalent and permission of the professor in charge. With change of content, may be repeated for additional credit.

Russian Literature in Translation

RUT 2110 The Russian Experience: Literature in Translation. F.
Credits: 4; Prereq: None. Not for major credit.

Russian Literature (Writings)

RUW 4100 Introduction to Russian Literature 1.
Credits: 5; Prereq: RUS 2200 or the equivalent. A survey of Russian literary history from Fonvizin through Turgenyev, Dostoyevsky and early Tolstoy.

RUW 4101 Introduction to Russian Literature 2.
Credits: 5; Prereq: RUS 2200 or the equivalent. A survey of Russian literary history from Tolstoy to the present day.

GRADUATE COURSES

Russian Language

RUS 5301 Grammar and Composition Exercises.
Credits: 4

RUS 5701 Structure of Russian.
Credits: 4

RUS 5845 The Development of the Russian Language.
Credits: 4

Russian Literature (Writings)

RUW 5120 Survey of Russian Literary History.
Credits: 5

RUW 5121 Survey of Modern Russian Literature.
Credits: 5

RUW 5905 Individual Work. F, W, S, SS.
Credits: 1 to 4

Scandinavian Language

SCA 1120 Beginning Swedish 1. F.
Credits: 5

SCA 1121 Beginning Swedish 2. W.
Credits: 5

SCA 1122 Beginning Swedish 3. S.
Credits: 5

SCA 2501 The Contemporary Scandinavian Scene. S.
Credits: 4

SCA 2502 Scandinavian Myth and Saga. W.
Credits: 4

ROMANCE LANGUAGES AND LITERATURES

INSTRUCTIONAL STAFF 1979-80

Conner, J.W.; Chairman; Allen, J.J.; Avellaneda, A; Baker, S.R.; Bonneville, D.A.; Cailler, B.; Casagrande, J.; Coulson, C.B.; DerHoussikian, H.; Diller, G.T.; Garcia, R.; Gay-Crosier, R.; Hammond, R.; Hower, A.; Ibarra, F.; Lasley, M.M.; Murphy, C.; Nichols, G.; Ramirez, A.; Schulman, I.A.; Smith, A.B.

An undergraduate major is offered in French and Spanish. The major consists of 36 quarter hours above the second-year college level, plus a subsidiary requirement of LIN 2010 or LIN 3030. Students intending to major in a foreign language should consult a department adviser at the earliest opportunity.

To graduate with departmental honors a student must attain a 3.5 average in his major (excluding courses below the 3000-level), and complete in his Senior year some special project approved as honors work.

Students who plan to continue the study of a language which they began in high school or another college are required to take a placement test before registering.

Romance Languages

FOL 6732 Introduction to Romance Linguistics.
Credits: 5

FOW 6930 Special Study in Romance Languages and Literatures.
Credits: 3 to 5

French

French Language

FRE 1110 Beginning French 1. F, W, S, SS.
Credits: 5
Emphasis on the fundamentals of French grammar. Course work includes drill in pronunciation and simple dialogs, vocabulary building and reading. This is the foundation course in a basic sequence. Prospective majors and students who wish to develop a broad competence in French should continue with FRE 1121 and FRE 1122 which emphasize the oral-aural approach; those who wish to concentrate on developing reading proficiency should continue with FRE 1111 and FRE 1112.

FRE 1111 Beginning French (Alternate) 2. F, W, S, SS.
Credits: 5; Prereq: FRE 1110 (grade of C or better, or S) or the equivalent.

FRE 1112 Beginning French (Alternate) 3. F, W, S, SS.
Credits: 5; Prereq: FRE 1111 (grade of C or better, or S) or the equivalent.

FRE 1121 Beginning French 2. F, W, S, SS.
Credits: 5; Prereq: FRE 1110 (grade of C or better, or S) or the equivalent.

FRE 1122 Beginning French 3. F, W, S, SS.
Credits: 5; Prereq: FRE 1121 (grade of C or better, or S) or the equivalent.

FRE 2200 Intermediate French. F, W, S, SS.
Credits: 4; Prereq: FRE 1122, or FRE 1112 with permission of department.

FRE 2201 Intermediate French 2. F, W, S, SS.
Credits: 4; Prereq: Competence in basic French, plus partial review of French grammar, practice in oral communication, and experience in reading. Continuation of FRE 2200, Intermediate French.

FRE 2240 Oral Practice in French. F, W, S.
Credits: 4; Prereq: FRE 2201, or the equivalent.

FRE 3300 Grammar and Composition 1. F, W, S.
Credits: 4; Prereq: FRE 2201, or the equivalent.

FRE 3320 Grammar and Composition 2. F, W, S.
Credits: 4; Prereq: FRE 3300, or the equivalent.

FRE 3410 Advanced French Conversation 1. F, W, S, SS.
Credits: 2; Prereq: FRE 2240 or equivalent.

FRE 3411 Advanced French Conversation 2. F, W, S.
Credits: 2; Prereq: FRE 3410 or equivalent.

FRE 3500 French Civilization. W, SS.
Credits: 4; Prereq: FRE 2201, or the equivalent. Introduction to French civilization in historical perspective.

FRE 3564 Contemporary French Culture. F, S.
Credits: 4; Prereq: Ability to handle French grammar, to read moderately complex French texts, and to communicate orally in French. Contemporary French Institutions and Customs.

FRE 4421 Composition and Syntax. W, SS.
Credits: 4; Prereq: FRE 3300, 3320 and FRW 3100, 3101, or the equivalent.

FRE 4780 French Phonetics. S.
Credits: 4; Prereq: FRE 3300, 3320 and an introductory course in linguistics.

FRE 4850 Introduction to the Structure of French. F.
Credits: 4; Prereq: FRE 3300, 3320 and an introductory course in linguistics.

FRE 4905 Individual Work. F, W, S, SS.
Credits: 2 to 5; Prereq: Permission of the department.

GRADUATE COURSES

FRE 5423 Advanced French Composition.
Credits: 4

FRE 5840 History of the French Language.
Credits: 4

FRE 5851 The Structure of French.
Credits: 4

FRE 6050 Beginning French for Graduate Students 1.
Credits: 4††

FRE 6051 Beginning French for Graduate Students 2.
Credits: 4

FRE 6730 Special Study in French Linguistics.
Credits: 4

FRE 6785 Advanced French Phonetics.
Credits: 4

French Literature in Translation.

FRT 2276 The French Novel of the 19th and 20th Centuries in English Translation. S.
Credits: 4; Prereq: None. Not for major credit. Analysis and interpretation of selected novels by authors such as Balzac, Stendhal, Flaubert, Zola, Proust, Gide, Malraux, Camus, etc.

FRT 2301 French Classical Drama in English Translation.
Credits: 4; Prereq: None. Not for major credit. Analysis and interpretation of selected plays by authors such as Racine, Corneille, Moliere, etc.

French Literature (Writings)

FRW 3100 Introduction to French Literature 1. W.
Credits: 4; Prereq: FRE 2200, or the equivalent. Study of representative texts from the Middle Ages to the Romantic period.

FRW 3101 Introduction to French Literature 2. F.
Credits: 4; Prereq: FRE 2200, or the equivalent. Study of representative texts from Romanticism to the present.

FRW 4216 Readings in Seventeenth-Century French Prose.
Credits: 4; Prereq: FRW 3100-3101 and FRE 3300-3320, or the equivalent.

FRW 4275 Readings in the Novel of the Eighteenth-Century. S.
Credits: 4; Prereq: FRE 3300-3320 and FRW 3100-3101, or the equivalent.

††Grading is on S-U basis only.

FOREIGN LANGUAGES

FRW 4300 Readings in Seventeenth-Century French Drama. W.
Credits: 4, Prereq: FRE 3300-3320 and FRW 3100-3101, or the equivalent.

FRW 4350 Survey of Modern French Poetry. F.
Credits: 4; Prereq: FRE 3300-3320 and FRW 3100-3101, or the equivalent.
The development of French poetry from Baudelaire to the present.

FRW 4410 French Medieval Literature. F.
Credits: 4; Prereq: FRE 3300-3320 and FRW 3100-3101, or the equivalent.

FRW 4420 Sixteenth-Century French Literature.
Credits: 4; Prereq: FRE 3300-3320 and FRW 3100-3101, or the equivalent.
Study of literary and intellectual currents of the period. Selected readings from Marot, Sceve, DuBellay, Ronsard, D'Aubigne, Rabelais, Marguerite de Navarre, Montaigne.

FRW 4480 Readings in Twentieth-Century French Literature.
Credits: 4; Prereq: FRE 3300-3320 and FRW 3100-3101, or the equivalent.

FRW 4535 Survey of French Romantic Literature.
Credits: 4; Prereq: FRE 3300-3320 and FRW 3100-3101, or the equivalent.
Study of representative texts, with emphasis on work of Lamartine, Vigny, Hugo, and Musset.

FRW 4555 Introduction to Realism and Naturalism. S.
Credits: 4; Prereq: FRE 3300-3320 and FRW 3100-3101, or the equivalent.
The novel and its development from Stendhal to Zola.

FRW 4710 Introduction to the Philosophic Movement. S.
Credits: 4; Prereq: FRE 3300-3320 and FRW 3100-3101, or the equivalent.
Readings from representative authors of the eighteenth-century, particularly Voltaire, Diderot, and Rousseau.

FRW 4770 African Literature of French Expression. S.
Credits: 4
An introduction to the works of modern Black writers from Africa and the Caribbean, notably Cesaire, Senghor, Damas, Roumain, B. Diop, Beti, Oyono, Laye.

GRADUATE COURSES

FRW 5481 Twentieth-Century French Literature.
Credits: 4

FRW 5556 Realism and Naturalism.
Credits: 4

FRW 6215 French Prose of the Renaissance.
Credits: 4

FRW 6217 Seventeenth-Century French Prose.
Credits: 4

FRW 6276 The Novel of the Eighteenth-Century.
Credits: 4

FRW 6288 Contemporary French Novel.
Credits: 4

FRW 6311 Seventeenth-Century French Drama.
Credits: 4

FRW 6318 French Classical Comedy.
Credits: 4

FRW 6328 Contemporary French Theater.
Credits: 4

††Grading is on S-U basis only.

FRW 6340 French Poetry of the Renaissance.
Credits: 4

FRW 6351 Modern French Poetry.
Credits: 4

FRW 6415 Old French Literature 1.
Credits: 4

FRW 6416 Old French Literature 2.
Credits: 4

FRW 6510 Baroque and Preclassicism.
Credits: 4

FRW 6536 The Romantic Period.
Credits: 4

FRW 6560 The French Symbolist Movement.
Credits: 4

FRW 6711 The Philosophic Movement.
Credits: 4

FRW 6755 Twentieth-Century Caribbean and West African Literature of French Expression.
Credits: 4

FRW 6805 Introduction to Graduate Study and Research.
Credits: 4

FRW 6825 Literary Criticism in France.
Credits: 4

FRW 6900 Special Study in French Literature.
Credits: 4

FRW 6905 Individual Work.
Credits: 2 to 5

FRW 6910 Supervised Research.
Credits: 1 to 5††

FRE 6940 Supervised Teaching.
Credits: 1 to 5††

FRW 6971 Master's Research.
Credits: 1 to 15††

FRW 7980 Doctoral Research.
Credits: 1 to 15††

Italian

Italian Language

ITA 1120 Beginning Italian 1. F.
Credits: 4

ITA 1121 Beginning Italian 2. W.
Credits: 5; Prereq: ITA 1120 (grade of C or better, or S) or equivalent.

ITA 1122 Beginning Italian 3. S.
Credits: 5; Prereq: ITA 1121 (grade of C or better, or S) or equivalent.

ITA 3400 Composition and Conversation.
Credits: 4; Prereq: ITA 1122, or the equivalent.

ITA 4905 Individual Work.
Credits: 2 to 5

Italian Literature (Writings)

ITW 3100 Introduction to Italian Literature 1.
Credits: 4; Prereq: ITA 1122, or the equivalent.
The major Italian authors from the Middle Ages through the Early Renaissance.

ITW 3101 Introduction to Italian Literature 2.
Credits: 4; Prereq: ITA 1122, or the equivalent.
The major Italian authors from the Renaissance through the eighteenth-century.

ITW 3102 Introduction to Italian Literature 3.
Credits: 4; Prereq: ITA 1122, or the equivalent.
The major Italian authors of the nineteenth and twentieth-centuries.

Linguistics

LIN 3030 Comparative Study of Foreign Languages. W, SS.
Credits: 4
Emphasis on historical linguistics.

Portuguese

Portuguese Language

POR 1120 Beginning Portuguese 1. F.
Credits: 5
This sequence POR 1120, 1121, 1122 is a basic course in Portuguese stressing the language as spoken in Brazil.

POR 1121 Beginning Portuguese 2. W.
Credits: 5; Prereq: POR 1120 (grade of C or better, or S) or the equivalent.

POR 1122 Beginning Portuguese 3. S.
Credits: 5; Prereq: POR 1121 (grade of C or better, or S) or the equivalent.

POR 3130 Introductory Portuguese (accelerated). W, SS.
Credits: 5; Prereq: SPN 2200 or FRE 2200 or the equivalent.

POR 3240 Oral Practice in Portuguese. W.
Credits: 4; Prereq: POR 1122, or the equivalent.

POR 3241 Composition and Conversation. F.
Credits: 4; Prereq: POR 1122, or the equivalent.

POR 4770 Portuguese Phonetics and Phonology. S.
Credits: 4; Prereq: POR 1122 and an introductory course in linguistics.

Portuguese Literature (Writings)

POW 3100 Introduction to Literature in Portuguese. F.
Credits: 4; Prereq: POR 1122, or permission of the department.
An introductory study of some of the major writers in the Portuguese language.

POW 3130 Introduction to Brazilian Literature 1. W.
Credits: 3; Prereq: POR 1122, or the permission of the department.
A study of Brazilian authors of the nineteenth and twentieth-centuries.

POW 3131 Introduction to Brazilian Literature 2. S.
Credits: 3; Prereq: POR 1122, or permission of the department.
A study of major contemporary writers.

POW 4700 Machado de Assis and His Contemporaries. W.
Credits: 4

POW 4710 Eca de Queiros and His Contemporaries. S.
Credits: 4

POW 4905 Individual Work.
Credits: 2 to 5

GRADUATE COURSES

POW 6275 The Nineteenth-Century Brazilian Novel.
Credits: 4

POW 6276 The Twentieth-Century Brazilian Novel.
Credits: 4

POW 6385 Brazilian Poetry.
Credits: 4

POW 6386 Brazilian Drama.
Credits: 4

POW 6400 Medieval and Renaissance Portuguese Literature.
Credits: 4

POW 6930 Special Study in Brazilian or Portuguese Literature.
Credits: 3 to 5

Portuguese Literature in Translation

PRT 2490 Modern Brazilian Literature in Translation. S.
Credits: 4; Prereq: None.
Readings of outstanding Brazilian novels, short stories, and plays. Designed especially for students with little or no knowledge of Portuguese who desire to study Brazilian life, character, and culture as portrayed in the writings of some of Brazil's greatest authors.

Spanish

Spanish Language

SPN 1100 Beginning Spanish 1. F, W, S, SS.
Credits: 5
SPN 1100, 1121, 1122 is the basic sequence intended for students who wish to develop a broad competence in Spanish. It emphasizes the oral-aural aspects of the language and requires extensive use of the language laboratory.

SPN 1110 Beginning Spanish (Alternate) 1. F, W, S, SS.
Credits: 5
SPN 1110, 1111, 1112 is the basic sequence designed for students who wish to develop the ability to understand written and spoken Spanish. Those interested in acquiring an active command of the language should take the 1100-1121-1122 sequence.

SPN 1111 Beginning Spanish (Alternate) 2. F, W, S, SS.
Credits: 5; Prereq: SPN 1110 (grade of C or better, or S) or the equivalent.

SPN 1112 Beginning Spanish (Alternate) 3. F, W, S, SS.
Credits: 5; Prereq: SPN 1111 (grade of C or better, or S) or the equivalent.

SPN 1121 Beginning Spanish 2. F, W, S, SS.
Credits: 5; Prereq: SPN 1100 (grade of C or better, or S) or the equivalent.

SPN 1122 Beginning Spanish 3. F, W, S, SS.
Credits: 5; Prereq: SPN 1121 (grade of C or better, or S) or the equivalent.

SPN 2200 Intermediate Spanish 1. F, W, S, SS.
Credits: 4; Prereq: SPN 1122, or SPN 1112 with permission of department.

SPN 2201 Intermediate Spanish 2. F, W, S.
Credits: 4; Prereq: SPN 2200 or equivalent.

SPN 2240 Oral Practice in Spanish. F, W, S.
Credits: 4; Prereq: SPN 2201 or equivalent or permission of department.
Enrollment limited.

SPN 3300 Grammar and Composition 1. F, W, S.
Credits: 4; Prereq: SPN 2200, or the equivalent.

SPN 3301 Grammar and Composition 2. F, W, S.
Credits: 4; Prereq: SPN 3300, or the equivalent.

SPN 3410 Advanced Spanish Conversation 1. F, W, S, SS.
Credits: 2; Prereq: SPN 2240 or equivalent.

SPN 3411 Advanced Spanish Conversation 2. F, W, S.
Credits: 2; Prereq: SPN 3410 or equivalent.

SPN 3510 Culture and Civilization of Spain. W.
Credits: 4; Prereq: SPN 3301 or the command of the language achieved through an advanced grammar and conversation sequence.
Study of the development and characteristics of the culture and civilization of Spain.

SPN 3520 Culture and Civilization of Spanish America. F, S.
Credits: 4; Prereq: SPN 3301 or the command of the language achieved through an advanced grammar and conversation sequence.
Study of the development and characteristics of the culture and civilization of Spanish America.

SPN 4420 Composition and Syntax. F, S.
Credits: 4; Prereq: SPN 3300, 3301, and SPW 3100-3102.

SPN 4780 Spanish Phonetics. F, W.
Credits: 4; Prereq: SPN 3300, 3301 and an introductory course in linguistics.

SPN 4840 Introduction to the History of the Spanish Language. S.
Credits: 4; Prereq: SPN 3300, 3301 and an introductory course in linguistics.

SPN 4850 Introduction to the Structure of Spanish. W.
Credits: 4; Prereq: SPN 3300, 3301 and an introductory course in linguistics.

SPN 4905 Individual Work.
Credits: 2 to 5; Prereq: Permission of the department.

GRADUATE COURSES

SPN 5315 Advanced Composition and Syntax.
Credits: 4

SPN 5851 The Structure of Spanish.
Credits: 4

SPN 6050 Beginning Spanish for Graduate Students I.
Credits: 4††

SPN 6051 Beginning Spanish for Graduate Students II.
Credits: 4

SPN 6730 Special Study in Spanish Linguistics.
Credits: 4

SPN 6781 Advanced Spanish Phonetics.
Credits: 4

SPN 6843 History of the Spanish Language.
Credits: 4

SPN 6940 Supervised Teaching.
Credits: 1 to 5††

Spanish Literature in Translation

SPT 2231 The Modern Spanish-American Novel in English Translation. SS.
Credits: 4; Prereq: None. Not for major credit.
Readings of outstanding Spanish-American novels. Designed especially for students with little or no knowledge of Spanish who desire to study Spanish American life, character and culture as portrayed in the writings of the most important novelists.

SPT 2601 Don Quixote in English Translation. W.
Credits: 4 Prereq: None, Not for major credit.
Analysis and interpretation of Cervantes' masterpiece with particular emphasis upon place of Don Quixote in Spanish literature and in the development of the modern novel.

SPT 3520 Literature and Society in Spanish America. W.
Credits: 3; Prereq: none.
The impact of historical events and current ideologies in Spanish American writing. Given in English.

Spanish Literature (Writings)

SPW 3020 Introduction to Spanish American Literature. F, W.
Credits: 4; Prereq: SPW 3100, or at least the first part of a survey of Spanish literature.
Study of representative texts.

SPW 3100 Introduction to Spanish Literature 1. F, S.
Credits: 4; Prereq: SPN 2200, or the equivalent.
Study of representative texts from the Middle Ages through the Golden Age.

SPW 3101 Introduction to Spanish Literature 2. F, W.
Credits: 4; Prereq: SPN 2200, or the equivalent.
Study of representative texts from the 18th century to the present.

SPW 3220 Hispanic Literature in Film. S.
Credits: 3; Prereq: SPW 3100 and SPW 3101, or similar survey knowledge of Spanish and Spanish American literature.
A study of selected major Spanish and Spanish American literature works and their film versions.

SPW 4190 Seminar in Spanish American Literature and Culture. S.
Credits: 4; Prereq: SPW 3020 or survey knowledge of Spanish and Spanish American literature with considerable fluency in Spanish.
Undergraduate seminar on topics to be selected. May be repeated with a change in content.

SPW 4215 Readings in Spanish Prose Fiction of the Golden Age.
Credits: 4; Prereq: SPN 3300, 3301 and SPW 3100, 3101.

SPW 4265 Readings in Spanish Novel of the Nineteenth-Century.
Credits: 4; Prereq: SPN 3300, 3301 and SPW 3100, 3101.

SPW 4280 Readings in Early Spanish-American Novel. SS.
Credits: 4; Prereq: SPN 3300, 3301 and SPW 3100, 3101.

SPW 4310 Readings in Spanish Drama of the Golden Age. F.
Credits: 4; Prereq: SPN 3300, 3301 and SPW 3100, 3101.

SPW 4315 Readings in Spanish Drama of the Nineteenth-Century.
Credits: 4; Prereq: SPN 3300, 3301 and SPW 3100, 3101.

SPW 4335 Spanish Lyric Poetry. SS.
Credits: 4; Prereq: SPN 3300, 3301 and SPW 3100, 3101.

SPW 4480 Readings in Contemporary Spanish Literature.
Credits: 4; Prereq: SPN 3300, 3301 and SPW 3100, 3101.
A study of selected works of the major writers of the last forty years, including Lorca, Cela, and Cernuda.

SPW 4604 Don Quixote. W.
Credits: 4; Prereq: SPN 3300, 3301 and SPW 3100, 3101.

SPW 4725 Introduction to the Generation of '98.
Credits: 4; Prereq: SPN 3300, 3301 and SPW 3100, 3101.

GRADUATE COURSES

SPW 5135 Introduction to Spanish-American Literature 1.
Credits: 4

SPW 5136 Introduction to Spanish-American Literature 2.
Credits: 4

SPW 5137 Introduction to Spanish-American Literature 3.
Credits: 4

SPW 6216 Spanish Prose Fiction of the Golden Age.
Credits: 4

††Grading is on S-U basis only.

FOREST RESOURCES AND CONSERVATION

SPW 6237 The Spanish-American Novel from Origins to Criollismo.
Credits: 4

SPW 6245 The Picaresque Novel.
Credits: 4

SPW 6269 Spanish Novel of the 19th Century.
Credits: 4

SPW 6270 Contemporary Spanish Novel.
Credits: 4

SPW 6285 Contemporary Spanish-American Novel 1.
Credits: 4

SPW 6286 Contemporary Spanish-American Novel 2.
Credits: 4

SPW 6313 Spanish Drama of the Golden Age.
Credits: 4

SPW 6319 Spanish Drama of the 19th Century.
Credits: 4

SPW 6325 Contemporary Spanish Theater.
Credits: 4

SPW 6337 Spanish Poetry of the Golden Age.
Credits: 4

SPW 6366 The Spanish-American Essay.
Credits: 4

SPW 6400 Old Spanish Literature 1.
Credits: 4

SPW 6401 Old Spanish Literature 2.
Credits: 4

SPW 6481 Contemporary Spanish Literature.
Credits: 4

SPW 6575 The Modernist Movement.
Credits: 4

SPW 6602 Cervantes.
Credits: 4

SPW 6705 Lope De Vega and His Contemporaries.
Credits: 4

SPW 6729 The Generation of '98.
Credits: 4

SPW 6765 Argentine Literature.
Credits: 4

SPW 6806 Introduction to Graduate Study and Research.
Credits: 4

SPW 6902 Special Study in Spanish or Spanish-American Literature.
Credits: 4

SPW 6905 Individual Work.
Credits: 2 to 5

SPW 6910 Supervised Research.
Credits: 1 to 5††

SPW 6971 Master's Research.
Credits: 1 to 15††

SPW 7980 Doctoral Research.
Credits: 1 to 15††

SWAHILI**

INSTRUCTIONAL STAFF 1979-80

Der-Houssikian, H.; Kotey, P.

Swahili Language

SWA 1120 Beginning Swahili 1. F.
Credits: 5

††Grading is on S-U basis only.

SWA 1121 Beginning Swahili 2. W.
Credits: 5; Prereq: SWA 1120 (grade of C or better, or S) or the equivalent.

SWA 1122 Beginning Swahili 3. S.
Credits: 5; Prereq: SWA 1121 (grade of C or better, or S) or the equivalent.

SWA 3240 Spoken Swahili. W.
Credits: 4; Prereq: SWA 1122 or the equivalent.
Intensive training in the pronunciation, idiom and style of contemporary Swahili.

SWA 4850 The Structure of Swahili.
Credits: 4; Prereq: LIN 2010 or the equivalent.

Swahili Literature in Translation

SWT 3110 A Survey of Swahili Literature in Translation.
Credits: 4

FORESTRY, WILDLIFE ECOLOGY, RESOURCE CONSERVATION
School of Forest Resources and Conservation

INSTRUCTIONAL STAFF 1979-80

Mace, A.C., Jr., Director; Schmidt, R.A., Assistant Director; Arvanitis, L.G.; Blakeslee, G.M.; Canfield, D.E., Jr.; Clarke, M.L.; Ewel, K.C.; Fisher, R.F.; Flinchum, D.M.; Forrester, D.I.; Gholz, H.L.; Goddard, R.E.; Haller, W.T.; Harris, L.D.; Hof, J.G.; Hollis, C.A.; Huffman, J.B.; Jensen, A.S.; Labisky, R.F.; Marion, W.R.; Post, D.M.; Pritchett, W.L.; Riekerk, H.; Rockwood, D.L.; Schramm, H.L., Jr.; Seaman, W., Jr.; Shireman, J.V.; Smith, W.H.; Sullivan, E.T.; Tanner, G.W.; Van, T.K.; Wilkinson, R.C.

Forestry and Natural Resources

FNR 3011 Biological Principles of Natural Resources Management. F, S.
Credits: 3; Prereq: Completion of the equivalent of one semester each of botany and zoology or two semesters of biology, and SFRC classification or permission of the instructor.
The application of biological principles to the management of natural ecosystems for the optimization of wood fiber, wildlife, grassland, water and recreation resources. A consideration of the important biological principles which drive and restrain the natural ecosystem and the effect of man's manipulation of the factors.

FNR 3050C Introduction to Natural Ecosystems. F, S.
Credits: 6; Prereq: Completion of the equivalent of one semester each of botany and zoology or two semesters of biology, and SFRC classification or permission of the instructor.
Field introduction to natural ecosystems. Analysis of ecosystem structure, function, diversity, and dynamics. Impacts of natural disturbance and management.

FNR 3421C Quantification in Natural Resources Management. W, SS.
Credits: 5; Prereq: MAC 3312, STA 3023 or equivalent.
Elementary measurement and analysis of natural resources including wood, water, forage, wildlife and recreation potential. Both parametric and non-parametric statistical techniques are stressed in lectures and laboratory exercises.

FNR 3650C Decision Making in Natural Resources Management. F, SS.
Credits: 4; Prereq: MAC 3312, STA 3023 or equivalent.
An analysis of components in the decision process emphasizing the use of quantitative, analytical and synthesis techniques available to renewable resource managers. Principles are interfaced with computer and other modern management techniques in a deliberative framework to provide a basis for efficient resource allocation.

FNR 3905 Individual Study. F, W, S, SS.
Credits: 1 to 6; May be repeated with change of topic up to a maximum of 9 credits. Prereq: Permission of the instructor.
Individual study of a selected topic related to forest resources and conservation as contracted for with the instructor at the start of the quarter.

FNR 4612C Recreational Use of Natural Resources. S.
Credits: 3; Prereq: senior standing or approval of instructor.
Implications of the increasing use of forest and wildlands for outdoor recreation with special emphasis on the problems of multiple-use management.

FNR 4623C Integrated Natural Resources Management. S.
Credits: 3; Prereq: FNR 3650C; FOR 4621C or Coreq: WIS 4541C, or approval of instructor.
An integrative approach to the study of forest resource management for the production of multiple products (such as timber, recreation, wildlife, rangeland, etc.) utilizing the case study approach.

FNR 4660C Natural Resources Management Policy. W.
Credits: 3; Prereq: Senior standing or consent of instructor.
Factors in evolution of forest, range, wildlife and related natural resources policies in the United States; policy components; policy formation implementation and change processes; introduction to criteria for evaluating effectiveness of policies.

FNR 4905 Individual Problems. F, W, S, SS.
Credits: 2 to 6
Investigation of a specific problem in forestry, range, wildlife ecology or forest products. The student will be assigned to a member of the staff in whose field his interest lies. May be repeated with change of content up to a maximum of 18 credits.

FNR 4931 Seminar. F, W, S.
Credits: 1; Prereq: Senior status or consent of instructor. May be repeated with change of content up to a maximum of 2 credits.
Current issues, policies, people relationships relative to forest resources conservation, use and development. Oral presentations and written reports required.

FNR 4941 Forestry, Range, and Wildlife Practicum. F, W, S, SS.
Credits: 1 to 4††; May be repeated with change of experience up to a maximum of 6 credits. Prereq: Permission of the assigned advisor.
Individual off-campus internship with selected enterprise or public agency, following a prearranged work program agreeable to both employer and advisor. FNR 4905 or similar problem course may be scheduled concurrently.

GRADUATE COURSES

FNR 5563 Simulation of Ecological Models. W.
Credits: 3

FNR 6608 Research Planning for Resource Decisions. F.
Credits: 4

FNR 6905 Research Problems in Forest Resources and Conservation.
Credits: 3 to 9; Max. 12.

FNR 6910 Supervised Research.
Credits: 1 to 5††

FNR 6922 Natural Resources Colloquium.
Credits: 1; Max. 6.

FNR 6933 Seminar.
Credits: 1††; Max. 3.

FNR 6934 Topics in Forest Resources and Conservation.
Credits: 1 to 5; Max. 9.

FNR 6940 Supervised Teaching.
Credits: 1 to 5††

FNR 6971 Master's Research.
Credits: 1 to 15††

FNR 7980 Doctoral Research.
Credits: 1 to 15††

Forestry

FOR 3003 Introduction to Forestry. F, W, S.
Credits: 3
Fundamentals of forestry, including history, geography, ecology, and management.

FOR 3120C Dendrology. F, S.
Credits: 4; Prereq: BOT 2011C or consent of instructor.
Characteristics of the major tree families, general and major forest types of North America. Includes studies in systematic botany, use of botanical keys, and lab and field identification of woody species.

FOR 3123C Range Plants. F.
Credits: 4; Prereq: BOT 2710 or BOT 2011C.
Identification of range grasses, forbs, and shrubs; their distribution and habitat requirements, growth characteristics, economic importance, successional status, and response to utilization and management.

FOR 3140C Wood Structure, Properties and Use. W.
Credits: 4; Prereq: BOT 2011C or equivalent.
An introduction to the structure, identification, properties and use of important commercial woods of the United States.

FOR 3333C Fundamentals of Forest Pathology. S.
Credits: 3
Study of major diseases of forest trees with emphasis on recognition, etiology, disease ecology, and control. Should be taken by forestry majors concurrently with Forest Insects — ENY 3541.

FOR 3430C Forest Resources Measurement. W.
Credits: 5; Prereq: SUR 3331C, FOR 3120C, FNR 3421C, or consent of instructor.
Forest resources inventory techniques; forest sampling designs; tree and stand yield estimation; appropriate aerial photogrammetric applications.

FOR 3710C Forest Products Utilization. F.
Credits: 3; Prereq: FOR 3140C.
Descriptions of the wide array of products derived from forest; origin and nature of raw materials; technologies and manufacturing processes.

FOR 4030 Basic Woodland Management. W, SS.
Credits: 4; Non-credit for forestry majors.
Principles and practices of forestry pertinent to the management of farm forest lands.

FOR 4151C Range Ecology. W.
Credits: 5; Prereq: FOR 3123C or approval of instructor.
Interrelationships within and between components of range ecosystems with emphasis on energy production and consumption and ecological concepts pertaining to management.

FOR 4162C Foundations of Silviculture. F.
Credits: 5; Prereq: FNR 3011, FNR 3050C, FNR 3421C, SOS 3022C.
Biological aspects of tree growth; site as a factor in tree growth; silvicultural systems; modern silvicultural practices; regional silviculture.

FOR 4212C Forest Fire Control and Use. W.
Credits: 3; Prereq: Consent of instructor.
Techniques of protecting forests from fire; forest fuels and factors affecting their inflammability; controlled fire in land use management.

FOR 4541C Forest Economics. F.
Credits: 4; Prereq: ECO 2013 and either ECO 2023 or AEB 3103.
The economics of forestry and the forest-product industries. Supply and demand from the viewpoint of the firm. The factors of production in forestry. The application of economic principles to specific problems of forestry.

FOR 4621C Principles of Forest Management. W.
Credits: 3; Prereq: FNR 3650C, FOR 3430C, FOR 4541C, or consent of instructor.
Principles of forest management, forest organization, management plans, sub-division of forest areas, forest regulation, cutting cycles, normal forest.

FOR 4733L Logging and Milling Practice. S.
Credits: 5; Prereq: Approval of instructor.
Care, use, and maintenance of logging and milling tools and equipment; logging and small sawmill operations.

FOR 4753C Forest Operations. F.
Credits: 4; Prereq: Consent of instructor.
An introduction to various operations associated with maintaining, protecting, and managing forests and their interactions with silvicultural systems and environmental factors.

GRADUATE COURSES
Structured courses may be offered in alternate years.

FOR 5645 Range Ecosystem Planning.
Credits: 5

FOR 6167 Silviculture. S, odd years.
Credits: 4

FOR 6170 Tropical Forestry. S, even years.
Credits: 4

FOR 6310 Forest Genetics 1. F
Credits: 4

FOR 6337 Forest Pathology.
Credits: 5

FOR 6340 Physiology of Forest Trees. W, even years.
Credits: 3

FOR 6453 Forest Mensuration. W.
Credits: 4

FOR 6543 Economic Analysis of Forest Operations. S, even years.
Credits: 4

FOR 6625 Forest Water Resources Management. SS, even years.
Credits: 4

FOR 6742 Advanced Wood Preservation.
Credits: 4

FOR 6746 Wood Science.
Credits: 4

Wildlife Science

WIS 2040 Man and Wildlife Resources. F.
Credits: 3
Broad review of man's perception and use of wildlife. Emphasis given to the Florida and Southeastern wildlife resource current management issues.

WIS 3401C Fundamentals of Wildlife Ecology. S.
Credits: 4; Prereq: BSC 2012C or consent of instructor.
Wildlife as a natural resource, with emphasis on principles of conservation, ecology, and management.

WIS 4220C Introduction to Fishery Science. W.
Credits: 4; Prereq: ZOO 3303C, ZOO 3803C, STA 3023, PCB 3043C.
Fishery problems in sport, commercial, culture, exotic and ecological systems. Field and laboratory techniques to describe population size and distribution, production, growth, feeding, movement, and reproduction. Management of freshwater and marine fishery resources.

WIS 4443C Wetlands Wildlife Resources. W.
Credits: 5; Prereq. WIS 3401C or approval of instructor.
Principles and problems associated with the conservation and management of wildlife in wetlands environments, with special emphasis on multiple-use management strategies of wetlands resources.

WIS 4541C Terrestrial Wildlife Resources. S.
Credits: 5; Prereq: WIS 3401C.
Principles and problems associated with the conservation and management of wildlife in terrestrial environments, from urban areas to wilderness, with emphasis on the ecological relationships underlying management strategies.

GRADUATE COURSES

WIS 5323 Impact of Diseases on Wildlife Populations. W, even years.
Credits: 3

WIS 6253 Fishery Science.
Credits: 4

WIS 6452 Wildlife Ecology. F, odd years.
Credits: 4

WIS 6454 Behavioral Principles of Wildlife Management.
Credits: 3

WIS 6456 Wildlife Population Analysis. W, odd years.
Credits: 4

WIS 6524 Role of the Public in Natural Resources Management. W, odd years.
Credits: 3

Course Available in Other Department:

Soil Science

SOS 6233 Forest Soils. W.
Credits: 4

FRUIT CROPS
College of Agriculture

INSTRUCTIONAL STAFF 1979-80

Burke, M.I., Chairman; Biggs, R.H.; Buchanan, D.W.; Crocker, T.E.; Davies, F.S.; Jackson, L.K.; Martsolf, J.D.; Lyrene, P.M.; Soule, J.; Wiltbank, W.J., Young, M.J.

FRC 3212 Introduction to Citrus Culture. W, SS.
Credits: 4, Prereq: BSC 2010 or consent of instructor.
History, botany, varieties, and rootstocks of citrus; soil and climatic requirements.

FRC 3212L Citrus Growing Laboratory. W, SS.
Credits: 1; Prereq. BSC 2010 or equivalent.
Must be taken concurrently with FRC 3212. Practice in methods of citrus culture designed to fill the need of the general student in agriculture.

FRC 4223 Citrus Production. W.
Credits: 4; Prereq or coreq: FRC 3212 or permission of instructor.
A study of the various practices which make up the complete Florida citrus production program. Particular attention is given to the scientific foundations of current practices.

FRC 4224L Field Production Practices in Fruit Crops. W.
Credits: 2; Prereq: FRC 3212.
Diagnosis of orchard problems and the use of equipment for plant protection.

††Grading is on S-U basis only.

GEOGRAPHY

FRC 4225L Laboratory and Field Practices in Fruit Crops. S.
Credits: 2; Prereq: FRC 3212.
Relation of morphological characteristics of fruit plants and chemical leaf analysis to cultural practices.

FRC 4241 Grove Operations and Management. S.
Credits: 4; Prereq: FRC 4223 or permission of instructor.
A course designed to present means of implementation of agricultural programs based upon the latest scientific findings and the changing economic trends. Attention will be given to the responsibilities of owner and manager, and the direction and supervision of operations. Proper record maintenance will be discussed.

FRC 4244 A Study of Current Citrus Research in Florida. SS.
Credits: 5; Prereq: FRC 3212.
A comprehensive survey of research being conducted in the several areas of citrus production at the Agricultural Research and Education Center at Lake Alfred. Students will be in residence at the Center for 4 weeks.

FRC 4251 Principles of Tropical Fruit Production. W.
Credits: 4; Prereq: Consent of instructor.
Botanical and horticultural characteristics of tropical fruit crops.

FRC 4271 Deciduous Fruit Crops. W.
Credits: 4
Culture, harvesting and handling of deciduous fruit crops. (Offered odd-numbered years.)

FRC 4411 Physiology of Fruit Production. S.
Credits: 5; Prereq: PLS 3212 or Permission of instructor, and BOT 3503C.
Physiological principles underlying the production of fruit crops.

FRC 4612 Citrus Maturity and Packinghouse Procedure. F.
Credits. 4; Prereq: FRC 3212.
The maturity and grade factors affecting market quality of citrus fruits, the laws regulating the shipping or sale of citrus fruits and the operation of commercial packinghouses.

FRC 4905 Special Problems in Fruit Crops. F, W, S, SS.
Credits: 1 to 3; Maximum of 9 credits with consent of instructor.
Open to Seniors on consent of instructor. (For additional courses related to Fruit Crops — See Plant Science).

FRC 4931 Undergraduate Seminar in Fruit Crops. F.
Credits: 1
Open only to Seniors.

FRC 4933 Citrus Production Managers' Seminar. S.
Credits: 3; Prereq: FRC 4223.
Current citrus practices employed by the industry. Topics include fertilization, pest management, irrigation, pruning, harvesting, labor relations, personnel management, budgeting and records as presented by citrus production managers.

FRC 4949 Full Time Practical Work Experience in Fruit Crops. F, W, S, SS.
Credits: 1 to 4††; Prereq: Prior arrangement with adviser and approval of Department Chairman and Dean.

GRADUATE COURSES

(Offered under Horticultural Science.)

††Grading is on S-U basis only.

GEOGRAPHY
College of Arts and Sciences

INSTRUCTIONAL STAFF 1979-80

Marcus, R.B., Chairman; Pirkle, E.C., Associate Chairman; Abbott, E.F.; Antonini, G.A.; Cross, C.I.; Dunkle, J.R.; Dupree, H.C.; Eoff, K.M.; Henry, J.A.; Hetrick, V.R.; Lamme, A.J.; Lindquist, R.C.; McCune, S.; Niddrie, D.L.; Olsson, C.N.; Paganini, L.A; Peterson, L.R.; Roberts, L.H.; Schaeper, H.R.; Spurlock, C.W.; Yorton, J.B.

Undergraduate Coordinator: L.A. Paganini

Undergraduate degree requirements:

In addition to satisfying the college requirements and the general university requirements for graduation, geography majors are required to follow one of the following courses of study.

Bachelor of Arts: GEO 3200, GEO 3200L, GEO 4100, GEO 4124, GEO 4164, PSC 2191L. Three courses from GEO 3502, GEO 3602, GEO 3370, GEO 3430, GEO 3471, GEA 3223. Select one regional course; select one course from 1000-2000 electives in Geography plus two courses from 3000-4000 electives in Geography to a total of 49 hours in Geography.

Bachelor of Arts (with teacher certification): GEO 3200, GEO 3200L, GEO 4124. Select three of the following: GEO 4100, GEO 4164, GEO 4905(1) + GEA 3270, GEO 490S(1) + GEA 3210. Select two of the following: GEO 3S02, GEO 3602, GEO 3370, GEO 3471, GEO 3430, GEA 3223. Select one of the following: GEA 3210, GEA 3223, GEA 3270, GEA 3410, GEA 3464, GEA 3502, GEA 3600, GEA 3624, GEA 3753. Select one course from 2000 level in Geography plus electives in Geography at the 3000-4000 level to total 49 hours. In addition, students seeking certification must complete the required education courses satisfactorily.

Bachelor of Science: GEO 3200, GEO 3200L, GEO 4100, GEO 4124, GEO 4164, PSC 2191L. Select three of the following: GEO 4201, MET 4002, GEO 3370, GEO 3315, SOS 3007. Select one course from 1000-2000 level in Geography + two courses from 3000-4000 level in Geography. Select either ISC 2401 or one Chemistry course from 2000 series. Total hours 49 including Chemistry requirement.

Bachelor of Science (with teacher certification): GEO 3200, GEO 3200L, GEO 4201. Select three of the following: GEO 4100, GEO 4124, GEO 4164, GEO 4905(1) + GEA 3270, GEO 490S(1) + GEA 3223. Select two of the following: GEO 3502, GEO 3602, GEO 3370, GEO 3471, GEO 3430, GEA 3223. Select one of the following: GEA 3210, GEA 3223, GEA 3270, GEA 3410, GEA 3464, GEA 3502, GEA 3600, GEA 3624, GEA 3753. Select one course from 2000 level in Geography + electives in Geography at the 3000-4000 level to total 49 hours. In addition, students seeking certification must complete the required education courses satisfactorily.

Departmental honors: In addition to satisfying the college requirements for graduation and the requirements for the degree of Bachelor of Arts or Bachelor of Science, with a major in Geography, the student wishing to graduate with departmental honors must fulfill the following requirements:
Attain the grade point average required by the college for graduation with departmental honors;

Participate in at least three courses within the department for honors credit of which at least one course must be at the 3000-level and one course at the 4000-level;

Complete a senior honors thesis no later than the third week before graduation;

Present the results of the research culminating in the senior honors thesis no later than the second week before graduation;

Complete, with a grade of "A," GEO 4970 (Honors Thesis).

The student shall, in consultation with the undergraduate coordinator and his advisor, select three members of the faculty to serve as a committee to evaluate the honors thesis. Normally, these faculty will also serve as advisors in the preparation of the thesis as well.

Geography-Regional (Area)

GEA 3210 Geography of the United States and Canada. W.
Credits: 4; Prereq: 6 hours of social sciences.
A comprehensive and systematic survey of the physical, economic and social character of the geographic regions of the United States and Canada; the significance of these countries in the economic and political affairs of the world.

GEA 3223 Historical Geography of the United States. S.
Credits: 4
A survey of the cultural geography of the American past. Characteristics of colonizations, settlement patterns, resource development and culture groups in the evolving regional pattern.

GEA 3270 Geography of Florida. F, W, S, SS.
Credits: 4
The geographic conditions and human adjustments in the major regions of Florida. The natural environment, population, routes of communication, industries, resources, and strategic location in their geographical and historical aspects.

GEA 3300 Geography of Middle America and the Caribbean. W.
Credits: 4; Prereq: 6 hours of social sciences.
A comprehensive and systematic survey of the population, natural resources, geographic regions, and potentialities of Middle America and the Caribbean; the significance of this region in the economic and political affairs of the world.

GEA 3410 Geography of South America. S.
Credits: 4; Prereq: 6 hours of social sciences.
A comprehensive and systematic survey of the population, natural resources, geographic regions, and potentialities of South America; the significance of this region in the economic and political affairs of the world.

GEA 3464 Environment and Societies in Latin America. F.
Credits: 4
Systematically-oriented course in which selected environmental and societal topics are placed in geographical context in order to give student a broad understanding of Latin American landscape.

GEA 3504 Geography of Europe. W.
Credits: 4; Prereq: 6 hours of social sciences.
A comprehensive and systematic survey of the population, natural resources, geographic regions and potentialities of Europe; the significance of this region in the economic and political affairs of the world.

GEA 3554 Geography of the U.S.S.R. F.
Credits: 4; Prereq: 6 hours of social sciences.
A comprehensive and systematic survey of the population, natural resources, geographic regions, and potentialities of the U.S.S.R.; the significance of the U.S.S.R. in the economic and political affairs of the world.

GEA 3600 Geography of Africa. F.
Credits: 4; Prereq: 6 hours of social sciences.
A comprehensive and systematic survey of the population, natural resources, geographic regions, and potentialities of Africa; the significance of this region in the economic and political affairs of the world.

GEA 3624 Geography of the Near East. S.
Credits: 4; Prereq: 6 hours of social sciences.
A comprehensive and systematic survey of the population, natural resources, geographic regions, and potentialities of the Near East; the significance of this region in the economic and political affairs of the world.

GEA 3753 Geography of the Far East. W.
Credits: 4; Prereq: 6 hours of social sciences.
A comprehensive and systematic survey of the population, natural resources, geographic regions, and potentialities of the Far East; the significance of this region in the economic and political affairs of the world.

GEA 4684 Geography of Southern Africa. W.
Credits: 4; recommended ANT 4352.
An intensive study of the landscape, natural resources, population, historical geography and industrial development of Southern Africa.

GRADUATE COURSES

GEA 6109 Tropical Lands and Their Utilization.
Credits: 15

GEA 6179 Seminar: Developing Nations.
Credits: 4

GEA 6219 Seminar: United States and Canada.
Credits: 5

GEA 6309 Seminar: Middle America and the Caribbean.
Credits: 5

GEA 6419 Seminar: South America.
Credits: 5

GEA 6468L Resource Utilization and Conservation in Latin America.
Credits: 5

GEA 6469 Seminar: Land, Man, and Migration in Latin America.
Credits: 4

Geography-Systematic

GEO 1000 Geographic Concepts, F, W, S.
Credits: 1
Basic concepts in geography. An opportunity to discover the significance of geographic ideas applicable to living in today's world.

GEO 1010 Geography for a Changing World. F, W, S.
Credits: 4
The spatial organization of society. Emphasis is placed upon some of the better known social-geographic concepts.

GEO 2410C Social Geography. F.
Credits: 4
Introduction to geography as a social science. Various social concepts presented from a spatial perspective. Discussion and programmed case studies.

GEO 2420 Geography of World Societies. F, W, S, SS.
Credits: 4
An introduction to cultural geography with an emphasis upon the development and spatial arrangement of the major societies of the modern world.

SPECIAL SERVICES COURSE

GEO 2421 Geography of World Societies. W, S.
Credits: 3
Content consistent with goals of GEO 2420, structured to the abilities of qualified students. Admission by invitation only.

GEO 2500 Geography of World Economies. F, W, S.
Credits: 4
A general geographic survey of the major economies of the modern world with an emphasis on the spatial analysis of economic activities.

GEO 2932 Honors: Geography. F, W, S.
Credits: 4; Prereq: Permission of Instructor.
For students electing to participate in the undergraduate honors programs.

GEO 3200 Physical Geography. F, W, S.
Credits: 4
A study of the development and distribution of landforms, climates, minerals, soils, and water resources. Interrelationships among the elements of the physical environment and regional patterns formed by these elements are analyzed against the background of man's utilization of them. Available for laboratory science credit.

GEO 3200L Physical Geography Laboratory.
Credits: 1; Prereq: Previous or concurrent enrollment in GEO 3200.
Laboratory to accompany lectures in physical geography.

GEO 3315 Cultural Plant Geography. S
Credits: 4
Study of the biological structure, means of survival, propagation and distribution of plants, with emphasis on their influence on the culture and diffusion of man throughout the world and his part in their development and improvement.

GEO 3333 Geographic Perception of the Urban Environment. F
Credits: 4
An examination of an individual's or group's perception of the social and physical environment. The course will include a brief examination of psychological ramifications of perception but will concentrate on the geographical aspects.

GEO 3370 Conservation of Resources. W, S.
Credits: 4; Prereq: Sophomore standing or permission of instructor.
A survey of natural and human resources followed by study of wise and wasteful practices of utilization of these resources. Course satisfies resource certification for social studies teachers.

GEO 3430 Population Geography. W, S.
Credits: 4
World-wide distribution of population; the areal distribution of populations in relation to the features of the environment in selected areas; problems of adjustment; population-supporting capacity.

GEO 3471 Political Geography. F.
Credits: 4
A survey of the impact of geographical influences upon the establishment and functioning of sovereign states and dependent areas in order to give a background for the intelligent comprehension of current events.

GEO 3502 Economic Geography. F.
Credits: 4
A comparative geographical survey of major economic activities such as agriculture, forestry, fishing, mining, manufacturing, and commerce. Emphasis will be upon the study of the characteristics of distribution and the regional patterns of these activities.

GEO 3602 Urban Geography. F, W, S.
Credits: 4
An empirical and theoretical spatial analysis of the various economic, population and social facets within and between urban settlements.

GEO 4100C Maps and Graphs. W, S.
Credits: 5; Prereq: Junior standing or permission of instructor.
Analyses of cartographic problems with exercises in techniques of presentation. Map projections and symbols. Problems in statistical representation by graphic methods.

GEO 4124C Air Photo Interpretation. F, S.
Credits: 5; Prereq: GEO 3200, or permission.
Principles of aerial photography; identification and interpretation of physical and cultural features; sketching and simple map-making and uses of aerial photography.

GEO 4164 Quantitative Analysis of Geography. F, S.
Credits: 5; Prereq: STA 3013, or permission of instructor.
Use of quantitative methods in geography with evaluation of statistical techniques in geographic research.

GEO 4201C Advanced Physical Geography. S.
Credits: 4; Prereq: GEO 3200.
Analysis of environmental systems and processes. The significance of geographical factors in man-environment interactions. Problems of environmental quality in a geographic context.

GEO 4905 Individual Work. F, W, S, SS.
Credits: 1 to 5; For undergraduates only. Prereq: 12 hours of geography and permission of instructor.
Qualified students and the instructor concerned may choose a particular topic or problem for study. May be repeated for full credit with change of content.

GEO 4930 Senior Seminar. F, S.
Credits: 1; Prereq: Senior standing; majors only
Integration of geographic concepts for graduating seniors; provides introduction to professional geography for students entering the job market

GEO 4938 Selected Topics in Geography.
Credits: 1 to 6

GEO 4944 Internship. F, W, S, SS.
Credits: 1 to 15; Prereq: Senior standing.
Experiential learning in position with city, county, regional and state government agencies.

GEO 4970 Honors Thesis. F, W, S, SS.
Credits: 4; Prereq: Senior standing and participation in departmental honors program.
Completion of an honor thesis, meeting departmental specifications, during the quarter in which the student is enrolled.

Meteorology

MET 4002 Climatology. F, S.
Credits: 4; Prereq: MET 1010 or GEO 3200 or permission of instructor.
Genesis of regional climates and their global distribution. Emphasis on world regional climatology; secondary topics: applied climatology and climate change.

GRADUATE COURSES

GEO 5105C Advanced Cartography.
Credits: 3

GEO 5125C Advanced Air Photo Interpretation.
Credits: 3

GEO 5145C Remote Sensing.
Credits: 3

GEO 5166C Advanced Quantitative Analysis in Geography.
Credits: 3

GEO 5437C Research Methods in Population Geography.
Credits: 4

GEO 5567 Industrial Location
Credits: 4

GEO 5605 Advanced Urban Geography.
Credits: 4

GEO 5704 Transportation Geography.
Credits: 4

GEO 5809 Geography of World Agriculture.
Credits: 5

GEO 5839 Land Tenure and Rural Settlement.
Credits: 5

GEO 5905 Individual Study.
Credits: 4

GEO 5930 Selected Topics in Geography.
Credits: 1 to 6; maximum of 16 credits.

GEOLOGY

GEO 5945C Field Course in Geography.
Credits: 3

GEO 6058 History of Geographical Thought.
Credits: 5

GEO 6118C Introduction to Geographical Research.
Credits: 5

GEO 6356 Seminar: Land and Water Utilization.
Credits: 5

GEO 6429 Seminar: Cultural Geography.
Credits: 5

GEO 6435 Seminar in Population.
Credits: 5

GEO 6509 Seminar: Economic Geography.
Credits: 4

GEO 6905 Individual Work.
Credits: 1 to 5

GEO 6910 Supervised Research.
Credits: 1 to 5††

GEO 6938 Selected Topics in Geography.
Credits: 1 to 6; maximum of 16 credits.

GEO 6940 Supervised Teaching.
Credits: 1 to 5††

GEO 6946 Individual Field Work.
Credits: 3

GEO 6971 Master's Research
Credits: 1 to 15††

GEO 7980 Doctoral Research.
Credits: 1 to 15††

GEOLOGY

College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1979-80

Eades, J.L., Chairman; Blanchard, F.N.; Deevey, E.S., Jr.; Griffin, G.M., Jr.; Jones, D.S.; Lindquist, R.C.; MacFadden, B.J.; Mueller, P.A.; Pierce, R.W., Jr.; Pirkle, E.C., Jr.; Randazzo, A.F.; Shaak, G.D.; Smith, D.L.; Spangler, D.P.; Wahl, F.M.; Webb, S.D. Undergraduate Coordinator: R. W. Pierce, Jr.

Students pursuing a major in Geology may now follow one of two courses of study:

BACHELOR OF ARTS: Designed for those students who do not intend to pursue careers as professional geologists, but who desire training in the geological sciences preparatory to pursuing advanced studies or careers in related, non-technical fields such as earth science teaching, law, business, or other socio-environmental pursuits. In addition to college and university requirements for graduation, students pursuing the Bachelor of Arts degree must complete the following core geology courses: GLY 2015 or 2991, GLY 2100, GLY 4210-4200-4400, GLY 4301, GLY 4610, and GLY 4511. Credit for GLY 4750 or a summer field course is also required. Students must also complete at least one additional course in geology at the 4000 level or above. In addition, students must complete at least 16 hours from the following courses: AST 1002, CHM 1020-1021, ENV 3003, GEO 4201, GEO 4124, ISC 2452, MET 1010, PSC 2121, PHY 2032, SOS 3003 and BSC 2010. Specific course recommendations will depend upon the area of interest of the student.

BACHELOR OF SCIENCE: To meet the minimum requirements for a B.S. in geology the student must obtain credit in the following core courses or their equivalent: GLY 2015 or 2991, GLY 2100, GLY 4210-4200-4400, GLY 4301, GLY 4610, and GLY 4511. Credit for GLY 4750 or a summer field course is required. Courses must also be completed in Basic Technical Writing, ENC 3343; one year of chemistry, CHM 2040-2041-2042-2043 or CHM 2045-2046-2047; one year of physics, PHY 2050-2051-2052, or PHY 2040-2041-2042, with appropriate laboratory sections. One quarter of zoology, BSC 2010, may be substituted for one quarter of physics. A sequence of three of the following math courses is required: MAC 3311, 3312, 3313, COP 3110, and STA 3023. Specific course recommendations will depend upon the area of primary geologic interest of the student.

Students considering an undergraduate major in geology are urged to contact the undergraduate coordinator, ROOM B131 General Purpose Building A, as early as possible for program counseling.

To qualify for honors in geology, a student must obtain a 3.3 average in all geology courses. In addition, an approved senior thesis based on original research must be presented to the Department Chairman.

††Grading is on S-U basis only.

Geology

GLY 1000 Exploring the Geological Sciences. F, W, S, SS.
Credits: 4
Selected topics in the geological sciences. Designed for the student not majoring in science. May not be counted for credit toward a minimum major in Geology.

GLY 1817 International Aspects of Mineral Resources. S.
Credits: 4
Origin and distribution of mineral resources of the earth; subsequent political, economic, social, and environmental consequences of their exploitation.

GLY 2015 Physical Geology. F, W, S, SS.
Credits: 4
Materials, structures, surface features of the earth and processes which have produced them. Related laboratory demonstrations and experiences.

GLY 2026 Geology for Engineers. F, W, S.
Credits: 4
The several fields of geology significant in the location of engineering structures and installations; the identification of common minerals and rocks; the processes of weathering and erosion; structure; surface features and geologic history interpreted from topographic and geologic maps. For engineers.

GLY 2100 Historical Geology. F, W, S, SS.
Credits: 4; Prereq: GLY 2015 or 2991C or consent of instructor.
Evolution of the earth and its life. The major physical events and evolutionary changes as recorded in the geologic past. Related laboratory demonstrations and exercises.

GLY 2152 Regional Geology of the Southeast. W.
Credits: 2; Prereq: GLY 2015 or GLY 2026 or 2991C and consent of instructor.
Observation and study of geologic features in the field. Course includes an eight day field trip (between quarters) to areas of geologic interest to study the stratigraphy, structure and geologic history of the southeastern United States.

GLY 2991C Physical Geology — Honors. F.
Credits: 4.
In depth discussion of materials, structures, surface features of the earth and processes which have produced them. Related laboratory demonstrations and experiences. Course designed for University Honors Program students only.

GLY 4155 Geology of Florida.
Credits: 4; Prereq: GLY 2015 or GLY 2026 or GLY 2991C or consent of instructor.
Principles of physical and historical geology as applied to the geology and mineral resources of Florida.

GLY 4200 Mineralogy. W.
Credits: 4; Prereq: GLY 4210.
A continuation of GLY 4210 involving a systematic study of rock-forming, geologically significant, and economically useful minerals, with emphasis upon their properties, occurrence, origin, identification and recognition.

GLY 4210 Crystallography. F.
Credits: 4; Prereq: GLY 2015 or GLY 2991C or CHM 2040 or permission of the instructor.
Introduction to principles of crystal chemistry, crystal structure types, morphological and structural crystallography, physical properties of minerals, and techniques of mineral identification.

GLY 4301 Elementary Petrology. S.
Credits: 4; Prereq: GLY 4200.
The mineralogy and texture, classification, recognition, occurrence, origin, and alteration of igneous, sedimentary, and metamorphic rocks.

GLY 4400 Structural Geology. W.
Credits: 4; Prereq: GLY 2100 or consent of instructor.
Structural features of the earth, their causes, recognition and interpretation, to include the mechanics of folding, faulting, and other deformations of the earth's crust.

GLY 4451C Introduction to Geophysics. F.
Credits: 4; Prereq: GLY 2015 or 2991; PHY 2050-51-52 or PHY 2040-41-42.
Principles of earth physics and geophysical techniques of exploration; seismology, geomagnetics, gravimetry, geothermometry, equipment familiarity and field methods.

GLY 4511 Principles of Stratigraphy. F.
Credits: 4; Prereq: GLY 2100.
Introduction to the concepts of biostratigraphic, lithostratigraphic, geochronologic, and chronostratigraphic units, and their proper definition, purpose, and use in stratigraphic work.

GLY 4515 Stratigraphic Analysis. W.
Credits: 4; Prereq: GLY 2100 and GLY 4511.
A course in advanced stratigraphy. Emphasis placed upon the detailed study of subsurface sampling techniques (well logs) and the presentation of stratigraphic information through Stratigraphic Maps.

GLY 4522 Paleozoic Stratigraphy. S.
Credits: 4; Prereq: GLY 2100 and GLY 4511.
A study of the Paleozoic stratigraphic history as displayed in the "type" areas of Europe and North America. Emphasis is also placed upon the local reference sections of North America and their stratigraphic record.

GLY 4610 Invertebrate Paleontology. S.
Credits: 4; Prereq: GLY 2100 or APB 2150-2151.
Characteristics and identification of important groups of invertebrate fossils and their use in the determination of the geological age of sedimentary rocks.

GLY 4700 Introduction to Geomorphology. S.
Credits: 4; Prereq: GLY 2100.
Description of the earth's major geomorphic features, their origin and evolution, and the geomorphic description and interpretation of topographic maps.

GLY 4750 Geological Field Methods. W.
Credits: 4; Prereq: 15 hours of geology courses.
Techniques used in geological field work.

GLY 4790 Geology Summer Field Camp. SS.
Credits: 15; Prereq: GLY 2015 or 2991, and GLY 2100, and permission of instructor.
Geological field procedures, techniques and instruments used in eight weeks of field work in Arizona, Utah, Nevada, and Colorado.

GLY 4800 Economic Geology. S.
Credits: 4; Prereq: GLY 4200 and GLY 4400.
The geology of ore deposits with emphasis on origin and occurrence.

GLY 4820L Hydrogeology and Human Affairs. F.
Credits: 4; Prereq: GLY 1000, GLY 2015, GLY 2026 or GLY 2991.
Introduction to hydrogeology; hydrologic cycle; historical development; water laws; ground water pollution; water resources evaluation; water and energy relationships; and environmental problems.

GLY 4905 Individual Work. F, W, S, SS.
Credits: 1 to 5. Maximum of 10 credits. Prereq: 15 hours of Geology and permission of Chairman of Department.
For work in addition to that offered in regular courses in physiography, mineralogy, petrology, paleontology, stratigraphy, sedimentology, and structural geology. With changes in content GLY 4905 may be elected for additional credit.

GLY 4930 Special Topics in Geology. F, W, S.
Credits: 4; Prereq: Three courses in Geology or permission of instructor.
Lecture, conferences, or laboratory sessions covering selected topics of current interest in modern geology. May be repeated with change in content up to a maximum of 12 credits.

GLY 4949L Cooperative Education Work Experience. F, W, S, SS.
Credits: 1††; Prereq: Freshman and Sophomore Years and minimum of 12 hours geology courses.
Practical co-op work experience relating to academic major or career field interest under approved industrial, business, institutional or governmental agency supervision. May be repeated with changed work program upon departmental approval.

Oceanography

OCE 4005 Introductory Oceanography F, S.
Credits: 4
History of oceanography; distribution of Earth's land and water; nature and relief of the sea's floor; physical and chemical properties of sea water; sea ice; sound in the sea; tides, currents, and waves; marine sedimentation.

GRADUATE COURSES
Geology

GLY 5050 Development of the Geological Sciences. W.
Credits: 3

GLY 5221 Optical Crystallography. W.
Credits: 4; Prereq: GLY 4210 or permission of the instructor.

GLY 5230 Mineralogical Analysis by X-Ray Methods. S.
Credits: 4; Prereq: GLY 4210 or permission of the instructor.

GLY 5241 Geochemistry. W.
Credits: 4; Prereq: GLY 2100 and CHM 2047.

GLY 5450 Introduction to Geophysics. F.
Credits: 4; Prereq: GLY 2015 or GLY 2991 and one year of college physics or consent of instructor.

GLY 5555 Sedimentology. F.
Credits: 4; Prereq: GLY 4301.

GLY 5640 Vertebrate Paleontology. F.
Credits: 4; Prereq: ZOO 3703 or GLY 2100.

GLY 5704 Geomorphology. S.
Credits: 4; Prereq: GLY 4400.

GLY 5734 Marine Geology. S.
Credits: 4; Prereq: GLY 2100 or permission of the instructor.

GLY 5820 Ground Water Geology. W.
Credits: 4

GLY 5860 Principles of Exploration Geophysics I. W.
Credits: 4; Prereq: GLY 2015 or GLY 2991 and one year of college physics or consent of instructor.

GLY 5861 Principles of Exploration Geophysics II. S.
Credits: 4; Prereq: GLY 2015 or GLY 2991 and one year of college physics or consent of instructor.

GLY 6225 Petrographic Mineralogy.
Credits: 4

GLY 6245 Analytical Geochemistry.
Credits: 4

GLY 6246 Metamorphic Geochemistry.
Credits: 4

GLY 6247 Igneous Geochemistry.
Credits: 4

GLY 6250 Mineralogy of Clays.
Credits: 4

GLY 6265 Isotope Geology.
Credits: 4

GLY 6341 Sedimentary Petrology.
Credits: 4

GLY 6345 Sedimentary Petrography.
Credits: 4

GLY 6351 Carbonate Sedimentology.
Credits: 4

GLY 6420 Tectonics.
Credits: 4

GLY 6530 Cenozoic Stratigraphy.
Credits: 4

GLY 6574 Fluvial, Deltaic, and Transitional Environments of Sedimentation.
Credits: 4

GLY 6575 Coastal and Estuarine Geology.
Credits: 4

GLY 6615 Advanced Invertebrate Paleontology.
Credits: 4

GLY 6620 Micropaleontology.
Credits: 4

GLY 6645 Ancient Vertebrate Faunas.
Credits: 4

GLY 6651 Seminar in Evolution.
Credits: 4

GLY 6660 Paleoecology.

Credits: 4

GLY 6705 Geomorphology of Southeastern United States.
Credits: 4

GLY 6813 Non-Metallic Geologic Materials.
Credits: 4

GLY 6829 Hydrogeology.
Credits: 4

GLY 6841 Offshore Oil, Gas, and Other Mineral Resources.
Credits: 4

GLY 6896 Seminar on Mineral Deposits and Conservation Geology.
Credits: 4

GLY 6905 Individual Work.
Credits: 1 to 5; maximum of 15 credits.

GLY 6910 Supervised Research.
Credits: 1 to 5††

GLY 6931 Seminar.
Credits: 1; maximum of 3 credits.

GLY 6932 Special Topics in Geology.
Credits: 1 to 4; maximum of 12 credits.

GLY 6940 Supervised Teaching.
Credits: 1 to 5††

GLY 6971 Research for Master's Thesis.
Credits: 1 to 15††

Oceanography: Geological

OCG 6276 Geological Oceanography.
Credits: 4.

CENTER FOR GERONTOLOGICAL STUDIES

GRADUATE COURSES

GEY 6646 Issues and Concepts in Gerontology.
Credits: 4

HEALTH AND HOSPITAL ADMINISTRATION
College of Health Related Professions

INSTRUCTIONAL STAFF 1979-80

Greene, B.R., Director; Angorn, R.A.; Champion, J.M.; Crandall, L.A.; Duncan, R.P.; Elnicki, R.A.; Garrigues, R.A.; Homer, C.G.; Ives, J.E.; Kilpatrick, K.E.; Randall, M.J.; Schmitt, J.P.; Swain, R.W.; West, F.E.; Whan, A.R.

Health Care Administration
GRADUATE COURSES

HCA 6101 Perspectives in Health Services Administration.
Credits: 4

HCA 6201 Financial Administration of Health and Hospital Care.
Credits: 3

HCA 6302 Hospital Organization and Management.
Credits: 4

HCA 6401 Introduction to Rehabilitation Facility Administration.
Credits: 2

HCA 6433 Health and Disease.
Credits: 4

HCA 6611 Health Planning.
Credits: 4

HCA 6691 Seminar in Health and Hospital Administration.
Credits: 2

HCA 6717 Research in Health and Hospital Administration.
Credits: 5

HCA 6811 Residency in Health and Hospital Administration.
Credits: 2††

HCA 6905 Individual Work in Hospital Administration.
Credits: 2

HCA 6930 Selected Topics and Theory in Research in Health Services Administration.
Credits: 1 to 5

††Grading is on S-U basis only.

HEALTH EDUCATION AND SAFETY
College of Physical Education, Health and Recreation

INSTRUCTIONAL STAFF 1979-80

Hicks, D.A., Acting Chairman; Crone, E.G.; Fagerberg, S.W.; Nuetzel, W.A.; Rienzo, B.A.; Varnes, J.W.

HES 2000 Personal and Family Health. F, W, S, SS.
Credits: 4
Current health problems are examined such as drugs, sexuality, nutrition, human ecology, mental health, disease and consumer health.

HES 2001 Community and Environmental Health. F, W, S.
Credits: 4
A survey of community health organizations and contemporary health issues such as population growth, environment, poverty, medical care and disease.

HES 2400 First Aid and Personal Safety. F, W, S, SS.
Credits: 3
Approved practices and training in first aid and CPR essential for survival in emergencies and during disasters.

HES 3144 Health Education and Medical Terminology. F, W, S, SS.
Credits: 3
Provides a working knowledge of the elements of terms related to the human body in health and disease. Descriptive definitions and applications of practical significance are included, with emphasis on the meaning of word roots and combining forms.

HES 3301 Elementary School Health Program. F, W, S, SS.
Credits: 4
Limited to those who are working toward teacher certification in elementary education or in health education. Health services, environment and instruction for the school child. Teaching areas include sex education, mental health, foods, diseases, drugs and accidents.

HES 3404 Instructor's First Aid and Emergency Care. F.
Credits: 4
Designed to prepare competent and certified instructors in Standard First Aid and Personal Safety, in Cardio-Pulmonary Resuscitation, and in Multi-Media according to American National Red Cross Standards.

HES 3431 School and Community Safety Education. F, S, SS.
Credits: 3
Accident problems in the home, school and community, and organized programs of safety education in elementary and secondary schools, and community settings.

HES 3945 Field Experience in Public Health. W.
Credits: 4; Prereq: HES 2001.
Limited to students majoring in health education. Orientation in the conduct of community health programs. Field experiences are arranged with a wide variety of community health agencies.

HES 4302 Health Education in the Secondary School. F, SS.
Credits: 4
Comprehensive health education emphasizing adolescent health needs and teaching in areas such as drugs, sexuality, nutrition, disease, and consumer health.

HES 4450 Driver and Traffic Safety Education. F, SS.
Credits: 4; Prereq: upper division status and a state driver's license. Limited to students completing a teaching degree and to health education major students.

††Grading is on S-U basis only.

Analysis of traffic problems. Essential factors in efficient motor vehicle operation including laboratory experiences in simulators, dual control car and on the multiple car driving range.

HES 4451 Teaching Driver and Traffic Safety Education. W, SS.
Credits: 4; Prereq: or Coreq: HES 4450.
Organization, administration and teaching techniques of driver education for public high schools including student teaching.

HES 4510 Consumer Health. W.
Credits: 3
Examines resources available to the public for health care and protection, including legitimate components of the health care system, and fraudulent practices.

HES 4540 Drug Education. F, W, S.
Credits: 3; Limited to students completing a teaching degree.
Drug education knowledge, skills and procedures emphasize team approaches in methodology for elementary and secondary school, college and community health settings.

HES 4561 Sex Education. S, SS.
Credits: 3; Limited to students completing a teaching degree.
Emphasis on content, issues, methodology and materials for the study of human sexuality in the elementary and secondary schools and community settings.

HES 4905 Variable Topics in Health Education. F, W, S, SS.
Credits: 2 to 10
Offered upon request of students to meet special interests which are not adequately provided for in other courses.

HES 4934 Seminar in Health Issues and Problems. F, W.
Credits: 1; May be repeated with a change of content up to a maximum of 3 credits; Prereq: Senior standing; HES 4302 or equivalent.
Library research, community investigations and seminar presentations of selected health problems and current issues in the health education profession.

HES 4946 Community Health Education — Internship. W. S.
Credits: 6 to 16

GRADUATE COURSES

HES 5246 Patient Health Education. S.
Credits: 4; Prereq: Senior or Graduate standing.

HES 5935 Current Topics in Health Education. F, W, S, SS.
Credits: 1 to 5

HES 6125 Scientific Foundations of Health. F, SS.
Credits: 4

HES 6165 Issues and Trends in Health Education. W, SS.
Credits: 4

HES 6266 Epidemiology and Community Health. S.
Credits: 4

HES 6328 Health Education in Community and School. W, SS.
Credits: 4

HES 6904 Readings in Health Education. F, S, SS.
Credits: 3, Maximum of 6 credits.

HES 6905 Directed Independent Study.
Credits: 1 to 5; Maximum of 10 credits.

HES 6910 Supervised Research.
Credits: 1 to 5††

HES 6940 Supervised Teaching.
Credits: 1 to 5††

HES 6945 Workshop Series in Health Education.
Credits: 1 to 10

HES 6971 Master's Research.
Credits: 1 to 15††

HEALTH RELATED PROFESSIONS
College of Health Related Professions.

INSTRUCTIONAL STAFF 1979-80

Adams, S.S.; Britt, M.S.; Duncan, P.R.: Finley, M.C.; Fisher, N.P.; Gill, A.A.; Greene, B.R.; Hammer, L.C.; Homer, C.G.; Menks, F.A.; Schmitt, J.P.; Scott, B.S.; Sieg, K.W., Suzuki, H.K.; Wagner, J.T.; West, F.E.; Wroe, M.C.

The following courses are common to one or more areas of training in the College of Health Related Professions. See Clinical and Community Dietetics, Medical Technology (MLS), Occupational Therapy (OTH), and Physical Therapy (PHT) for additional professional courses in the respective curricula. HSC 1001 is required for clinical and community dietetics, medical technology, and occupational therapy. HSC 4550 is required for occupational therapy. APB 3203 is required for clinical and community dietetics, medical technology, and physical therapy. HSC 4S16 and HSC 4S17 are required for physical therapy and occupational therapy.

Applied Biology

APB 3203 Basic Anatomy and Physiology. F, W, S, SS.
Credits: 4; Prereq: BSC 2010C.
Open to students in the College of Health Related Professions and to others by permission of instructor. The structure and physiological function of selected human systems.

APB 4503 General Pathology. S
Credits: 4; Prereq: HSC 4522.
The pathogenesis of human diseases and injuries. The mechanisms whereby etiologic agents affect changes resulting in signs and symptoms. Functional rehabilitative techniques are emphasized. Prerequisite for Occupational Therapy: HSC 4522.

Health Care Administration

HCA 4112 The American Health Care System. W, SS.
Credits: 3
Examination of the structure, organization and functions of the system with emphasis on the roles and impact of health care delivery institutions, health care professionals and consumers.

HCA 4511 Supervisory Skills in Health Care Administration. F, S.
Credits: 3
Examination of specific supervisory skills required of health care middle managers.

HCA 4802 Practicum. F, W, S, SS.
Credits: 2 to 15; Prereq: HCA 4112, HCA 4511 and HSC 4162, or by permission of department chairman.
Supervised practical experience with health care facility middle managers to develop and demonstrate managerial competency.

Health Science

HSC 1001 Introduction to Health Related Professions. F, W, S.
Credits: 2
Open to all University College students. The current concept of comprehensive care of the ill and disabled. An orientation to the roles of the various health professions.

HSC 3520L Basic Anatomy and Physiology Laboratory. F, W.
Credits: 1
Laboratory sections to correlate with content of

APB 3203. Emphasis on cardiovascular, respiratory, and musculoskeletal system response to exercise.

HSC 4151 Legal Issues in Health Care Delivery. S.
Credits: 4
An examination of the constraints and protection afforded by current laws, and anticipated legal issues, applicable to health care delivery.

HSC 4162 The Hospital and Related Organizations. W.
Credits: 4
Analysis of the organization and operation of health care delivery institutions with particular emphasis on the acute care hospital.

HSC 4221 Introduction to Evaluation in Health Sciences. W, SS.
Credits: 3
Examination of evaluation principles and methods with emphasis on clinical evaluation components and processes.

HSC 4390 Ethical Issues in Health Care Delivery. F, S.
Credits: 4
An examination of ethical issues impacting on the provision of health care services, including quality of life, informed consent, right to life, individual vs. societal rights, etc.

HSC 4391 Social Issues in Health Care. W, SS.
Credits: 4
Examination of pertinent social issues impacting on health care with emphasis on social attitudes, consumer rights and environmental concerns.

HSC 4516 Medical and Surgical Disorders I. S, F.
Credits: 3 to 4; Prereq. or Coreq: HSC 4522 or APB 4500.
Medical lectures on the etiology, pathology, symptomatology and treatment of orthopedic, medical and surgical conditions.

HSC 4517 Medical and Surgical Disorders II. F.
Credits: 3 to 4; Prereq: HSC 4522 or coreq: PHT 4111.
Medical lectures on etiology, pathology, symptomatology and treatment of neurological conditions.

HSC 4518 Medical and Surgical Disorders III. W.
Credits: 4; Prereq: HSC 4517.
Medical lectures on etiology, pathology, symptomatology and treatment of medical and surgical conditions. (Labs relate physical therapy methods to the above conditions.)

HSC 4522 The Nervous System. W.
Credits: 4; Prereq: OTH 4412 or PHT 3100 or permission of instructor.
Structure of the human nervous system and relationship to function.

HSC 4540 Kinesiology. F.
Credits: 2 to 4; Prereq: OTH 4412; Coreq: PHT 4111.
Biomechanics of the musculoskeletal system with analysis of human motion and evaluation of function relating to physical disability.

HSC 4550 Psychiatric Disorders. S.
Credits: 4; Prereq. or Coreq: OTH 2000 or permission of instructor.
Personality formation with emphasis on periods of tension and conflict. Intensive study of psychoses and psychoneuroses and their psychiatric management. Personality reactions to physical illness.

HSC 4573 Research Methods in Health Sciences. W, SS.
Credits: 4; Prereq: For Seniors only.
Introduction to basic research concepts and techniques in health sciences.

HSC 4905 Individual Study in Health Related Professions. F, W, S, SS.
Credits: 2 to 10; Prereq: Permission of Chairman of Department or Dean.
Supervised program of studies to investigate problems significant to health related professions. May be repeated with change of content up to a maximum of 16 credits.

HSC 4930 Special Topics. F, W, S, SS.
Credits: 1 to 5; Prereq: Permission of Department heads or Dean.
May be repeated with change of content up to a maximum of 10 credits.

GRADUATE COURSES

HSC 6905 Individual Study in Health Related Professions.
Credits: 3 to 5. Maximum of 10 credits.

HSC 6910 Supervised Research.
Credits: 1 to 5††

HSC 6939 Special Topics. F, W, S, SS.
Credits: 1 to 5; Prereq: Permission of Department heads or Dean.

HSC 6940 Supervised Teaching.
Credits: 1 to 5††

LIN 5711L Laboratory Study of Emergent Language Behavior. F, S.
Credits: 4

HISTORY

College of Arts and Sciences

INSTRUCTIONAL STAFF 1979-80

Bushnell, D., Chairman; Baringer, W.E.; Bentley, G.R.; Blakey, A.F.; Burns, A.M., III; Chalmers, D.M.; Chang, R.T.; Colburn, D.R.; Conroy, S.S.; Cox, M.G.; Davis, R.H., Jr.; Doherty, H.J.; Entner, M.L.; Funk, A.L.; Gannon, M.V.; Giles, G.J.; Goslinga, C.C.; Gregory, F.; Guthrie, C.; Hatch, R.A.; Henry, G.S.; Hoffman, G.J.; Johnson, L.R.; McAlister, L.N.; McGuiness, D.M.; Macaulay, N.W., Jr.; Mahon, J.K.; Paul, H.W.; Peek, R.L.; Pleasants, J.M.; Pozzetta, G.E.; Proctor, S.; Savitt, T.L.; Schaub, J.H.; Sidman, C.F.; Softley, D.A.; Sommerville, C.J.; Sturgill, C.C.; Suarez, A.; Turner, E.R.; Wilenksy, N.M.; Wilson, H.A.; Woodruff, W.

A history major consists of a minimum of 45 credit hours. Majors are required to take the following: AMH 2010 and AMH 2020; two courses from among EUH 2001, EUH 2004, and EUH 2005; two of the following courses, AFH 2003, ASH 2202 or 2203, EUH 2000, LAH 2020. Students are also required to complete HIS 3152 and to take the remaining credits at the 3000 and 4000 levels. Transfer students must take a minimum of 25 credits at the University of Florida. Prospective majors should consult a departmental adviser as early as possible. Candidates for Honors and High Honors are required to take HIS 4114 (in place of HIS 3152) and to complete a senior thesis, HIS 4970. Majors wishing to concentrate in history of science, technology, and medicine should consult the section in the catalogue immediately following the history course offerings.

The history department offers the following courses and areas of concentration for non-major and pre-professional students: Business and labor history — AMH 3460, AMH 3530, ECS 4334, EUH 4640, EUH 4641; WOH 3220; Military history — AMH 4546, EUH 4244, EUH 4280, EUH 4650, EUH 4651, WOH 3220; History of ideas — AMH 4307, AMH 4309, EUH 4602, EUH 4603, EUH 4604, HIS 2463, HIS 2464,; Social history — AMH 4307, AMH 4309, EUH 4610, EUH 4611, LAH 4722, LAH 4723; Ethnic and minority affairs — AMH 3460, AMH 3530, AMH 3581, AMH 4572, AMH 4578, AMH 4579, EUH 3092.

African History

AFH 2003 Africa in World History
Credits: 4
A one-quarter introduction to African history for undergraduates. By focusing upon major historical themes, this course will enable students to link the history of African societies with other world civilizations.

AFH 3100 Africa to 1800. F.
Credits: 4
Ancient Africa, the expansion of Islam, savannah kingdoms, East African trading cities, maritime contacts with Europe, the slave trade.

AFH 3200 Africa Since 1800. W.
Credits: 4
The end of the slave trade and the growth of "legitimate" commerce; Islamic renewal and revolution; the European partition and the colonial era; the growth of nationalism and the reemergence of independent Africa.

AFH 4250 Modern Africa. S.
Credits: 4
Selected topics in 19th and 20th century African development: pre-colonial conditions, colonial rule, nationalist movements and the problem of independence.

AFH 4450 Southern Africa. F.
Credits: 4
The history of Southern Africa from the pre-European era to the present.

GRADUATE COURSES

AFH 5934 Topics in African History.
Credits: 4; Maximum of 16 credits.

AFH 6934 Africa.
Credits: 5; Maximum of 15 credits.

American History

AMH 2010 United States to 1877. F, W, S, SS.
Credits: 5
A survey of the development of the U.S. from its colonial origins to the end of Reconstruction.

AMH 2020 United States Since 1877. F, W, S, SS.
Credits: 5
A survey of the emergence of modern America as an industrial and world power; the Progressive era; WWI; great depression and New Deal; WWII; and the cold war era.

AMH 3315 American Popular Culture to 1970.
Credits: 4
A survey of the interests and amusements of the common man in the United States from the camp meeting to the rock festival, from the tent show to the television program.

AMH 3421 Florida to 1821. F.
Credits: 3
Exploration and settlement; colonial history of Spanish and British Florida.

AMH 3422 Florida 1821 to 1900. F, W, S.
Credits: 3
U.S. acquisition, Seminole Wars, territory and state, Civil War, Reconstruction, Bourbons, railroads, Populists.

AMH 3423 Florida 1900-Present. W, S, SS.
Credits: 3
The Progressive Era, the Catts Explosion, Great Florida Land Boom, Great Depression and World Wars, diversification of agriculture, tourism, urbanization, industrialization, social and intellectual developments.

AMH 3427 Selected Topics in Florida History
Credits: 4
Directed reading from sources and in-depth examination of selected periods and problems in Florida history.

AMH 3460 U.S. Urban History. F.
Credits: 4
Analysis of the growth and development of urban civilization in the U.S. Emphasis on how cities began and their impact on politics, economics and culture.

††Grading is on S-U basis only.

Descriptions

HISTORY

AMH 3523 History of American-East Asian Relations. W.
Credits: 4
The foreign relations of the United States with China, Korea, and Japan from the late eighteenth-century to the present.

AMH 3530 Immigration and Ethnicity in American History. S.
Credits: 4
A historical survey of America's minorities, including analyses of assimilation, ethnic identification, adjustments, and nativism.

AMH 4041 Studies in American Civilization. F, W.
Credits: 4
Examination of periods, themes, and movements in U.S. history, using concepts and data from the humanities and social sciences.

AMH 4110 Colonial America. F.
Credits: 4; Prereq: AMH 2010.
Description and analysis of the origins of the Anglo-North American colonies; development of colonial society, economy, culture and institutions; international rivalry for North American supremacy.

AMH 4130 American Revolutionary Era. W.
Credits: 4; Prereq: AMH 2010.
The Great War for Empire and post-war adjustments, deterioration of relations between the colonies and England, 1763-75; War for Independence; government under the Articles of Confederation and the movement for constitutional revision.

AMH 4160 Jacksonian America. W.
Credits: 4
The main trends in political, economic and social history in the United States from the close of the War of 1812 through the compromise of 1850, with major emphasis on political history.

AMH 4170 Slavery and Civil War in the U.S. F.
Credits: 4; Prereq: AMH 2010.
Biracial settlement of the South, a minority within a minority; north of slavery, abolitionist crusade, sectional controversy, the War, and why the North won.

AMH 4172 Era of the American Civil War. W.
Credits: 4; Prereq: Permission of the Instructor.
A reading and discussion course with emphasis on American politics from 1850 to 1876. Topical focus on expansion and conflict; nativism; steps toward separation; military and policy aspects of the War; the conflicting goals of reconciliation and freedom; constitutional problems; the political economy of Reconstruction during the Grant era.

AMH 4220 U.S., Populist Era to World War I. F.
Credits: 4
The Populist era; Progressivism; WWI.

AMH 4231 U.S., World War I to World War II. W.
Credits: 4
Post War America; the twenties; depression and New Deal; WWII.

AMH 4270 U.S. Since WWII. S.
Credits: 4
Post War America; America as world power; social revolution, Vietnam, Watergate.

AMH 4307 U.S. Social and Intellectual History to the Civil War.
Credits: 4
Colonial religious and social structure, enlightenment, revolution, constitutionalism, liberalism, emergence of a national culture, age of reform.

AMH 4309 U.S. Social and Intellectual History Since the Civil War.
Credits: 4
Darwinism, pragmatism, progressivism, nationalism, cultural relativism, New Deal, post WW II search for standards.

AMH 4402 The South to 1860. F.
Credits: 4
Development of Southern culture from the earliest settlements to the development of Southern nationalism.

AMH 4403 The South Since 1860. W.
Credits: 4
Impact of Civil War and Reconstruction; the economic, political and social development of the New South.

AMH 4426 Undergraduate Seminar in Florida Studies
Credits: 4; Prereq: Minimum of 16 credits in Florida Studies certificate program.
Topics and themes of Florida's past as well as contemporary issues are examined from an interdisciplinary perspective. Individual projects will be emphasized.

AMH 4444 The Far West. S.
Credits: 4
A history of the nineteenth-century trans-Mississippi West with special attention to the exploration, acquisition and settlement of the Great Plains. Emphasis on the Mexican War, Manifest Destiny, economic development and the impact of the white man on Indian cultures.

AMH 4546 U.S. Military Policy in War and Peace 1. F.
Credits: 3
From European background in the eighteenth-century through the Civil War. Not drum and trumpet history, but the relationship of military institutions to the rest of U.S. history. Emphasizes the search for peace as well as war.

AMH 4547 U.S. Military Policy in War and Peace 2. W.
Credits: 3
Since 1865. Emphasizes the managerial revolution at the end of the nineteenth-century, the hypertrophy of war, and introduces modern defense and peace problems.

AMH 4572 Reconstruction and Race Relations, 1862 to the Present. W.
Credits: 4
Congressional Reconstruction and the Freedman under Lincoln, Johnson, and Grant; the legend and reality of "Radical" Republican policy toward the Negro. The Era of Segregation, 1862-1954. The Civil Rights Movement and the Second Reconstruction: black protest and the nation's response to the Negro Revolution.

AMH 4578 Problems in Afro-American History. W.
Credits: 4; Prereq: Permission of Instructor.
A reading-and-discussion course with primary focus on the question of black nationalism versus assimilation with concentrated attention to issues and movements and the condition of Afro-American accommodation and resistance.

AMH 4579 Colloquium, History of the Afro-American.
Credits: 4; Prereq: Permission of the Instructor.
A reading-and-discussion course which each year gives concentrated attention to a different aspect of black history and culture.

AMH 4935 Undergraduate Seminar in American Civilization. S.
Credits: 4
Topics and themes of the American past examined from interdisciplinary perspectives. Individual projects based on student training and interest will be emphasized.

GRADUATE COURSES

AMH 5905 Special Studies. F, W, S, SS.
Credits: 4

AMH 5930 Topics in U.S. History.
Credits: 4; Maximum of 16 credits.

AMH 6117 Colonial America.
Credits: 5

AMH 6149 United States, Early National.
Credits: 5

AMH 6169 United States, The Middle Period.
Credits: 5

AMH 6179 United States, Division and Reunion.
Credits: 5

AMH 6201 The Emergence of Modern America.
Credits: 5

AMH 6239 America Between the Wars.
Credits: 5

AMH 6279 America Since 1945.
Credits: 5

AMH 6379 The United States in the World Economy, 1783-1960.
Credits: 5

AMH 6393 Seminar in American Thought.
Credits: 5; Maximum of 10 credits.

AMH 6498 Seminar in Urban-Ethnic History.
Credits: 5; Maximum of 10 credits.

AMH 6549 Seminar in the History of American Military Policy.
Credits: 5; Maximum of 10 credits.

Asian History

ASH 2301 East Asian Civilizations to 1800, I. F.
Credits: 4
The historical and cultural development of China to 1800.

ASH 2302 East Asian Civilizations to 1800, II. S.
Credits: 4
The historical and cultural development of Korea and Japan to 1800.

ASH 3303 East Asian Civilization Since 1800. W.
Credits: 4
The historical development of China and Korea under the impact of the West since 1800.

ASH 3441 Japan 1600-1895. F.
Credits: 4
Japan's first encounter with the West, the proscription of Christianity, the Bakuhan system, Japan's second encounter with the West, the Meiji restoration and the growth of the Meiji state, the First Sino-Japanese War.

ASH 3442 Japan Since 1895.
Credits: 4
Japan's search for equality with the West, the Russo-Japanese War, the Taisho Democratic Movement, from Mukden to Pearl Harbor, the Pacific War, the American occupation, and Japan as economic power.

ASH 3521 India to 1857.
Credits: 4
Background of traditional Hindu and Muslim institutions, European commercial initiative and political involvement, British achievement of paramount power in India.

ASH 3550 India Since 1857.
Credits: 4
British imperial rule, the freedom movement, the interests of minorities and partition of the subcontinent, independent India.

ASH 4101 Ancient Mediterranean Civ. I
Credits: 4
Primary focus on Mesopotamian civilization to about 1600 B.C.: Sumerians, Akkadians, UR III, Amorites, Elamites, Syria, the Indus Valley Civilization, Anatolia, the Minoans.

ASH 4102 Ancient Mediterranean Civ. II
Credits: 4
Primary focus on Egyptian and Eastern Mediterranean Civilization to about 1100 B.C.: Egypt to

the end of the New Kingdom, Palestine, Syria, the Indo-Europeans, the Aegean Bronze Age.

ASH 4103 Ancient Mediterranean Civ. III
Credits: 4
Eastern Mediterranean about 1200 to 500 B.C.: the Dark Ages, 1200-750 B.C., era of small states (Philistines, Hebrews, Phoenicians), the Age of Revolution in Greece, the Assyrian Empire, the Sixth Century.

GRADUATE COURSES

ASH 5388 Topics in East Asian History.
Credits: 4; Maximum of 16 credits.

ASH 6904 Readings in Japanese History.
Credits: 5

Economic Systems and Development

ECS 4334 Economic and Social History of Modern Russia and the Soviet Union.
Credits: 4

European History

EUH 2000 Western Civilization: From Early Times Through the Middle Ages. F, W, S.
Credits: 4
An introduction to western civilization. Treats the early cultures in Mesopotamia and Egypt, the Minoan-Mycenean society, Greece, the Hellenistic period, Rome, the barbarian invasions, and the Middle Ages.

EUH 2001 Western Civilization: From the Renaissance to the Eighteenth-Century. F, W, S, SS.
Credits: 4
Highlights the Renaissance and Reformation, the Thirty Years War, the Age of Louis XIV, mercantilism, and the beginnings of the Enlightenment.

EUH 2004 Western Civilization: From the Enlightenment to Imperialism.
Credits: 4
Emphasizes the Enlightenment, the eighteenth-century revolutions, Napoleon, romanticism and reaction, science and industry, and national unification.

EUH 2005 Western Civilization: Contemporary Europe
Credits: 4
Emphasizes imperialism, cultural realism, the contest of ideologies, the world wars, and Europe's role in the postwar world.

EUH 3092 Childhood and Family in Western Civilization. S.
Credits: 4
A history of attitudes toward children, of efforts to use, help, and understand them, and of the ideological importance of the child, and what these show about our civilization, since the Greeks.

EUH 3101 The Ancient Near East, from Earliest Times to 500 B.C. F.
Credits: 4
Beginnings of western civilization. Emphasis on Egypt, Mesopotamia, and the peoples of the Old Testament.

EUH 3121 Early Middle Ages. F.
Credits: 4
The western world from the dissolution of the Roman Empire in the West to the birth of the German Holy Roman Empire.

EUH 3122 The High Middle Ages. W.
Credits: 4
The western world from the inception of Germany through the Twelfth-Century Renaissance to the height of medieval civilization.

EUH 3123 Later Middle Ages. S.
Credits: 4
The waning of the Middle Ages of the western world from their height to the voyages of discovery.

EUH 3140 Renaissance. F.
Credits: 4
Interpretations of the Renaissance. Italy: culture and politics. The northern Renaissance and Christian Humanism.

EUH 3144 Reformation. W.
Credits: 4
Medieval background. The Protestant, Radical, and Catholic Reformations of the sixteenth-century. Impact on European society.

EUH 3202 Europe, 1660 to 1763.
Credits: 4
European politics, society, ideas, and institutions from the age of Louis XIV to the dissolution of the French colonial empire.

EUH 3204 Europe, 1763 to 1848. F.
Credits: 4
European politics, society, ideas, and institutions from the Enlightenment to the triumph of the bourgeoisie.

EUH 3205 Europe, 1848 to 1914. W.
Credits: 4
European politics, society, ideas, and institutions from the revolution of 1848 to the outbreak of World War I.

EUH 3206 Europe Since 1914. S.
Credits: 4
European politics, society, ideas, and institutions from World War I to the present.

EUH 3401 The Greek World to 200 B.C. W.
Credits: 4
Greek foundations of western civilization from Minoans and Mycenaeans to Alexander the Great. Emphasis on classical Greek history, especially the fifth century.

EUH 3412 The Roman World. S.
Credits: 4
Romans and their contribution to western civilization. Covers the traditions of the Roman Republic, the Carthaginian Wars, and the Imperial period.

EUH 3500 Medieval England. F.
Credits: 4
The creation of a national society and culture in the time of England's constitutional development (to the sixteenth century).

EUH 3501 Early Modern England. W.
Credits: 4
The development of a revolutionary tradition and of a parliamentary monarchy, in the period of England's cultural flowering (sixteenth to eighteenth centuries).

EUH 3502 Modern Britain. S.
Credits: 4
Social, political, and economic developments in the nineteenth and twentieth centuries.

EUH 3571 Russia to 1801. F.
Credits: 4
A survey of the history of the Russian state. Emphasis is on institutional, political, and economic history.

EUH 3572 Russia, 1801-1917. W.
Credits: 4
Emphasis is on internal political, economic, and social history, the impact of modernization and the rise of radical ideologies.

EUH 3573 Soviet Union. S.
Credits: 4
A survey of Soviet history. Emphasis is on internal politics and institutions, and on the development of the Soviet economy.

EUH 4244 Background of World War II.
Credits: 4
The first World War, the Treaty of Versailles, diplomacy between the wars, analysis of events leading to World War II.

EUH 4280 History of the Second World War. W.
Credits: 4
An analysis of the Second World War covering especially politics, resistance movements, and strategy. Although all theaters are covered, the emphasis is on Europe.

EUH 4314 Spain and Portugal, Fifteenth-Seventeenth Centuries.
Credits: 4
History of Spain and Portugal from the close of Middle Ages, emphasizing research tools and bibl. materials. Spanish dominance and decline.

EUH 4315 Iberia, Since 1700.
Credits: 4
Spanish and Portuguese quest for modernity.

EUH 4442 The Birth and Development of the French People.
Credits: 4; Prereq: EUH 2000 and 2001, or Permission of Instructor.
Development of the French People to 1585.

EUH 4451 Growth of the Modern French State
Credits: 4; Prereq: EUH 2001, 2004, and 4442, or Permission of Instructor.
A continuation of EUH 4442. Covers the development of the highly centralized French state from the end of the sixteenth century to the present.

EUH 4463 Germany in the Nineteenth Century. F.
Credits: 4
From the Prussian reform movement through the reign of Wilhelm II, with emphasis on the creation of the German Empire.

EUH 4464 Germany in the Twentieth Century. W.
Credits: 4
From the origins of World War I to divided Germany after World War II. Emphasis on the Weimar Republic and the Nazi era.

EUH 4511 Elizabethan England, 1509-1660. F.
Credits: 4
Cultural, social and constitutional developments in the time of the emergence of political and religious consciousness.

EUH 4513 Restoration England, 1660-1793.
Credits: 4
Cultural, economic, and political developments in the era of England's industrial, imperial, and diplomatic dominance.

EUH 4534 Modern Ireland
Credits: 4
An introductory course on Irish politics, society, institutions, and culture from the Act of Union (1801) to the present.

EUH 4602 Intellectual History of Europe, Renaissance to the Scientific Revolution.
Credits: 4
First of a three-quarter sequence, the emergence of the modern world view from Renaissance philosophies of nature (alchemy, astrology, Kabala) to the rise of modern science with Newton. Emphasis on the transition from humanism, Hermeticism and naturalism to empiricism, mechanism, and science. The social and intellectual role of learned societies.

EUH 4603 Intellectual History of Europe, Enlightenment to Romanticism. W.
Credits: 4
Development of scientific and religious ideas in context of social conditions of knowledge. Emphasis on Cartesianism, Baconianism, Enlightenment, Romanticism.

EUH 4604 Intellectual History of Europe from Positivism to Structuralism. S.
Credits: 4
Impact of Marxism, Darwinism. Changing nature of scientific knowledge. Attention given to ideology, sociology of knowledge. Mid-nineteenth through twentieth century.

EUH 4610 European Social History, 1358-1750.
Credits: 4
Social structure, social change, and revolt in western and southern Europe from the Black Death to the Industrial Revolution. Offered alternate years.

EUH 4611 European Social History, 1750-Present.
Credits: 4, Offered alternate years.
Social change and revolution in western Europe from the Industrial Revolution to present.

EUH 4640 Economic History of Europe to A.D. 1350. F.
Credits: 4
Agrarian Europe from Neolithic times, the medieval and early modern European village community.

EUH 4641 Economic History of Europe, 1350-1700. W.
Credits: 4
The rise of towns, development of commerce, history of business organization, medieval and early modern European demographic history.

EUH 4650 European Military History to 1783. F.
Credits: 4; Offered alternate years.
The founding and growth of the state-controlled military establishment, and the exercise of the military art, military policies treated in connection with relevant political, and economic factors.

EUH 4651 European Military History Since 1783. S.
Credits: 4; Offered alternate years.
A continuation of EUH 4651.

GRADUATE COURSES

EUH 5546 Topics in British History.
Credits: 4; maximum of 16 credits.

EUH 5934 Topics in European History.
Credits: 4; Maximum of 16 credits.

EUH 6126 The Middle Ages.
Credits: 5

EUH 6213 Europe, 1500-1763.
Credits: 5

EUH 6289 Readings, Modern Europe.
Credits: 5; Maximum of 15 credits.

EUH 6298 Seminar in the History of Modern European Thought.
Credits: 5

EUH 6320 Eastern Europe.
Credits: 5

EUH 6339 Central Europe.
Credits: 5

EUH 6342 Western Europe Since 1763.
Credits: 5

EUH 6508 England.
Credits: 5; Maximum of 15 credits.

History: General

HIS 1930 Special Topics
Credits: 4
May be repeated with change of content.

HIS 3152 An Introduction to Historical Thinking. S.
Credits: 2
Introduction to the methodological and philosophical bases of historical analysis.

HIS 3300 Minority Group Conflicts in Historical Perspective.
Credits: 3
A course focused on the historical background of "minorities within minorities," e.g., Ulster-Ireland-Britain. To be offered periodically with area and content change.

HIS 4114 The Nature of History. W.
Credits: 4
An introduction to the philosophy of history, including analysis of interpretations of the historical process, criticism of classical theories of history, and consideration of recent theories on historical explanation. Qualifies as credit for High Honors and for Departmental Honors.

HIS 4905 Special Studies. F, W, S, SS.
Credits: 1 to 5
May be repeated with change of content up to a maximum of 12 credits.

HIS 4930 Population Problems in Historical Perspective.
Credits: 4
Introduction to historical demography from neolithic times to the modern era in Europe and selected other geographical areas.

HIS 4970 Senior Thesis. F, W, S, SS.
Credits: 3; Prereq: Senior standing and permission of department. May be repeated with approval of department.
Directed research leading to the submission of a thesis. Required for candidates for High Honors and for Departmental Honors.

GRADUATE COURSES

HIS 6060 Theories and Methods 1.
Credits: 5

HIS 6061 Theories and Methods 2.
Credits: 5

HIS 6063 Introduction to Quantitative History.
Credits: 5

HIS 6084 History, Philosophy and Purposes of Museums.
Credits: 4

HIS 6148 Historians and American Society.
Credits: 5

HIS 6489 Seminar in History of Science.
Credits: 4

HIS 6905 Individual Study.
Credits: 5; Maximum of 20 credits.

HIS 6910 Supervised Research.
Credits: 1 to 5††

HIS 6940 Supervised Teaching.
Credits: 1 to 15††

HIS 6971 Master's Research.
Credits: 1 to 15††

HIS 7289 Comparative History.
Credits: 5

HIS 7980 Doctoral Research.
Credits: 1 to 15††

Latin American History

LAH 2020 Latin American Civilization.
Credits: 4
An introduction to Latin American civilization, from the Conquest to the present, emphasizing select topics in social, political, and cultural history.

LAH 3130 Colonial Latin America.
Credits: 4
A survey of the formation of Spanish and Portuguese imperial systems and colonial societies in America in the sixteenth, seventeenth, and eighteenth centuries.

LAH 3201 The Emergence of Modern Latin America.
Credits: 4
A survey of Spanish and Portuguese imperial crises in the eighteenth century, and the independence movement and formation of the Latin American nations in the nineteenth century.

LAH 3300 Contemporary Latin America.
Credits: 4
A survey of contemporary challenges to traditionalism: social and economic transformations, revolutionary change, and authoritarianism.

LAH 3712 The Inter-American System. F.
Credits: 4
Historical development of political, diplomatic, and economic relations of Latin America with the United States, the socialist countries and the world community, including intra-regional relations.

LAH 4433 Modern Mexico.
Credits: 4
Aftermath of Independence and war with U.S., the Reforma and Maximilian, Porfiriate, Mexican Revolution and contemporary trends.

LAH 4471 Caribbean, the Old Colonial System. F.
Credits: 4
Comparison of the colonial regimes in the West Indies and Central America to 1821, international rivalry, slavery and the slave trade.

LAH 4472 The Caribbean Since Abolition. W.
Credits: 4
Political, social and economic consequences of the abolition of slavery; the struggle for nationhood; democracy and socialism.

LAH 4510 Platine Republics.
Credits: 4; offered alternate years.
Argentina, Paraguay, and Uruguay since independence, briefer examination of colonial antecedents. Argentina as a case-study of abortive political and economic take-off.

LAH 4520 Gran Colombian Nations. S.
Credits: 4
Comparative study of political institutions, social and economic development of Colombia, Venezuela, Ecuador, primarily since independence.

LAH 4620 Brazil to 1822. F.
Credits: 4
Foundations of Portuguese civilization in Brazil, sugar planters, bandeirantes, miners, ranchers and slaves. Political, social and economic developments from 1500 to 1822.

LAH 4630 Brazil Since 1822. S.
Credits: 4
Monarchy, wars, slavery, the military question, the Republic, coffee, industrialization, twentieth century ideologies.

LAH 4722 Problems in the Social History of Latin America (I).
Credits: 4
An examination of the historical roots of select contemporary issues, as found in colonial and early national class and race relations, population movements, and patterns of external dependency. To be presented with use of films and literary materials as well as conventional historical readings.

LAH 4723 Problems in the Social History of Latin America (II).
Credits: 4
The later development, mainly in the present century, of issues considered in LAH 4722, together with new forces making for change. Special attention to modern social revolutionary movements. Procedures same as in LAH 4722.

GRADUATE COURSES

LAH 5934 Topics in Latin American History.
Credits: 4; Maximum of 16 credits.

LAH 6938 Seminar in Latin American History. F, W, S.
Credits: 5; May be repeated.

Social Sciences: Interdisciplinary

SSI 4601 Masterpieces in Social Sciences 1. F.
Credits: 4; Prereq: Advanced standing and some work in the social sciences.
Readings from early classics in economics, history, political science, sociology, and cultural anthropology.

††Grading is on S-U basis only.

SSI 4602 Masterpieces in Social Sciences 2. W.
Credits: 4; Prereq: Advanced standing and some work in the social sciences.
A study of similar classics from the nineteenth century.

SSI 4603 Masterpieces in Social Sciences 3. S.
Credits: 4; Prereq: Advanced standing and some work in the social sciences.
A study of similar classics from the twentieth century.

WORLD HISTORY

WOH 3220 World Encounter: An Analysis of Global Historical Trends since 1500. W.
Credits: 4
Examines the major factors which in the last 400 years have influenced the formation of today's power structure.

HISTORY OF SCIENCE, TECHNOLOGY, AND MEDICINE

Students wishing to concentrate in history of science, technology, and medicine must meet the following requirement: 1. A minimum of 40 hours in history including 10 hours in courses with a prefix of either AMH or EUH. 24 hours must be taken in history of science, technology, and medicine, including not less than 1 course each in history of science, history of technology, and history of medicine. The following courses also meet the history of science requirement: HIS 3483 (The Atomic Age), HUM 2190 (Ascent of Man), LIT 4903 (Literature of Science), AST 5043 (History of Astronomy), PSC 3900, 3901 (Men and Concepts I, II), PSY 5605 (History of Psychology), MHF 4404 (History of Mathematics). 2. 12 hours of science and mathematics beyond the general education requirement, including at least 8 hours of non-general education courses at the junior or senior level that are required of majors in a given scientific discipline.

History of Science

HIS 2463 Introduction to the History of Science: Origins to the Renaissance.
Credits: 4
An introduction to the emergence of scientific thought from its mythopoeic beginnings to the time of Kepler and Galileo. The course will focus on the interrelationships among science, philosophy, and religion in Greece, Islam, and the Latin West.

HIS 2464 Introduction to the History of Science: Renaissance to the Present.
Credits: 4
A general survey of the major issues in physical and biological science from the time of Galileo to the present. Emphasis will be placed on the impact of scientific development on society, culture, and thought.

HIS 3468 Special Topics in the History of Science
Credits: 4
Individual episodes from the history of science dealing with the historical development either of a particular science or of a specific theme. Examples include History of Evolutionary Thought, The Scientific Revolution, Scientific Exploration in an Age of Discovery. May be repeated with change of content up to a maximum of 12 credits.

HIS 3483 The Atomic Age. S.
Credits: 4
History of the changing perception of the political and social significance of science since the discovery of nuclear fission.

History of Technology

HIS 4470 History of Technology I. F.
Credits: 4
This course examines the development of technology and engineering from antiquity to the Industrial Revolution. Emphasis will be on the relationship of the development of technology to the growth of western civilization.

HIS 4471 History of Technology II. W.
Credits: 4
This course examines the development of technology and engineering from the beginning of the Industrial Revolution to the early twentieth-century. Emphasis will be on the relationship of the development of technology to the growth of western civilization.

HIS 4472 History of Technology III. S.
Credits: 4
This course investigates the development of technology and engineering in North America from about 1700 to the early twentieth century. It is concerned primarily with the influence of the growth of technology on the developing pattern of life in the United States.

History of Medicine

HES 4100 Topics in the History of Medicine.
Credits: 4
Beginning with primitive societies, the course will trace the development of ideas of medical treatment, concepts of disease, and the growth of medical knowledge over the centuries. Students will also have the opportunity to perform research on an aspect of medical history of interest to them.

HES 4103 Topics in American Medical History.
Credits: 4
A topical approach to the origins and special problems of the healing professions in America. Emphasis is on social history rather than on technological developments. Topics may vary each time the course is offered. Student may repeat course when topics change.

HORTICULTURAL SCIENCE
College of Agriculture

INSTRUCTIONAL STAFF 1979-80

Carpenter, W.J., Chairman; (Faculty listed under Fruit Crops, Ornamental Horticulture, and Vegetable Crops).

Fruit Crops

GRADUATE COURSES

FRC 6233 Citriculture.
Credits: 5

FRC 6243 Citrus Production Management.
Credits: 5

FRC 6252 Advanced Tropical Fruit Crops.
Credits: 4

FRC 6256 Tropical Fruit Production and Research in Florida.
Credits: 5

Horticulture Science

GRADUATE COURSES

HOS 6112 Morphology of Horticultural Crops.
Credits: 5

HOS 6122 Taxonomy of Horticultural Crops.
Credits: 5

HOS 6201 Perennial Horticultural Crop Breeding.
Credits: 5

HOS 6212 Herbaceous Horticultural Crop Breeding.
Credits: 3

HOS 6231 Biochemical Genetics of Higher Plants.
Credits: 4

HOS 6311 Seed Physiology.
Credits: 5

HOS 6331 Postharvest Physiology.
Credits: 5

HOS 6351 Chemical Regulators of Horticultural Crops.
Credits: 4

HOS 6361 Rootstock-Scion Relationships.
Credits: 5

HOS 6412 Nutrition of Horticultural Crops.
Credits: 5

HOS 6611C Agricultural Meteorology.
Credits: 5

HOS 6631 Environmental Measurements.
Credits: 3

HOS 6905 Nonthesis Research in Horticultural Science.
Credits: 1 to 5; max. 5.

HOS 6910 Supervised Research.
Credits: 1 to 5††

HOS 6931 Horticultural Science Seminar.
Credits: 1††; maximum 4.

HOS 6932 Topics.
Credits: 2 to 5; max. 10.

HOS 6940 Supervised Teaching.
Credits: 1 to 5††

HOS 6941 Practicum in Horticultural Science.
Credits: 2 to 5; max. 10.

HOS 6971 Master's Research.
Credits: 1 to 15††

HOS 7980 Doctoral Research.
Credits: 1 to 15††

Ornamental Horticulture

GRADUATE COURSES

ORH 6223 Research and Development in Turfgrass Science.
Credits: 4

Vegetable Crops

GRADUATE COURSES

VEC 6251 Advanced Olericulture.
Credits: 5

HUMANITIES
College of Liberal Arts & Sciences

INSTRUCTIONAL STAFF 1979-80

McKnight, S.A, Chairman; Derrick, C.; Goldhurst, W.; Haring, E.; Hodges, J.R.; Jaberg, R.L.; Johnson, I.; Kniseley, S.P.; Kotey, P.A.; Lambert, R.E.; Langford, A.G.; Leavey, J.P.; Lewis, A.L.; Malvern, M.M.; Price, J.W.; Sunwall, J.R.; Taylor, F.H.G.; Ulmer, G.

Course offerings by the Humanities Department may be be used to satisfy requirements for general education, advanced electives, and majors in interdisciplinary studies.

General education requirements may be satisfied by taking any course labeled HUM at any time during the student's undergraduate career.

Humanities (HUM) upper division courses are suitable as advanced electives for students putting together elective "packages" for a program in the area of the Western tradition.

Humanities Department faculty are available for participation in interdisciplinary studies programs. Students wishing to explore the possibilities offered by the Humanities Department should consult with an advisor via the Department office.

††Grading is on S-U basis only.

The basic sequences are intended to widen and deepen the student's knowledge of our intellectual and artistic inheritance. HUM 2210-2230-2250 and HUM 2229-2239-2259 (honors) are organized chronologically to show the development of the most vital characteristics of Western culture. Typically, students study, from primary sources when possible, works by Homer, the Greek playwrights (Aeschylus, Sophocles, Euripides), Plato, the Pentateuch, Matthew, Dante, More, Machiavelli, Michelangelo, Shakespeare, Descartes, Spinoza, Rembrandt, Voltaire, Bach, Mozart, Beethoven, Goethe, Dostoevsky, Debussy, le Corbusier, Freud, Picasso, Stravinsky, Sartre, et al.

Courses at this level are supplemented by Special Topics (HUM 2930) courses which offer in-depth consideraion of selected areas, themes or epochs.

In addition the Department offers both introductory and advanced (designed to form a coherent set of advanced studies) courses in Western Humanities including HUM 1010, 2460, 2513, 3220, 3251, 3431, 3435, 3437, 3473 and 3930.

Courses are also offered in Non-Western Humanities, including HUM 2420 and 3420 African Humanities and HUM 2410 Asian Humanities.

HUM 2020 Humanities Forum.
Credits: 4
A general introduction to western humanities emphasizing the formation of values and the development of self-images as expressed in the arts, literature, and philosophy of the major historical epochs. Strongly recommended as a first course for students desiring a general overview or for those needing a single humanities course to complete the general humanities requirement.

HUM 2210 Western Humanities: Ancient to Medieval. F, W, SS.
Credits: 4
The first course in the sequence HUM 2210-2230-2250. Selections from the Greco-Roman and Judeo-Christian heritages, and the Medieval period.

HUM 2229 Western Humanities: College Honors. F.
Credits: 4; Prereq: Enrollment in College Honors.
The first course in the sequence HUM 2229-2239-2259. Similar to HUM 2210 but structured to the abilities of qualified students.

HUM 2230 Western Humanities: Renaissance to 19th Century. W, S.
Credits: 4
The second course in the sequence HUM 2210-2230-2250. Selections from the Renaissance to the late 19th Century.

HUM 2239 Western Humanities: College Honors. W.
Credits: 4; Prereq: Enrollment in College Honors.
The second course in the sequence HUM 2229-2239-2259. Similar to HUM 2230 but structured to the abilities of qualified students.

HUM 2250 Western Humanities; Modern. S, SS.
Credits: 4
The third course in the sequence HUM 2210-2230-2250. Selections from the late 19th and 20th Centuries.

HUM 2259 Western Humanities: College Honors. S.
Credits: 4; Prereq: Enrollment in College Honors.
The third course in the sequence HUM 2229-2239-2259. Similar to HUM 2250 but structured to the abilities of qualified students.

HUM 2333 Language and Nationalism: A Humanistic View of an International Problem. W.
Credits: 4
A humanistic perspective of the role language should play in nationalism.

HUM 2410 Asian Humanities. F, W, S.
Credits: 5
A general education course similar in philosophy and purpose to HUM 2210-2230-2250. Content selected from the philosophies, literature, arts and music of India, China, Japan. May be used either as an elective or as a requirement in the area of the Humanities.

HUM 2420 African Humanities. F, W, S.
Credits: 5
A general education course similar in philosophy and purpose to HUM 2210-2230-2250. Content selected from various African countries and regions. May be used either as an elective or as a requirement in the area of the Humanities.

HUM 2460 Latin American Humanities. W. S.
Credits: 4
Organized on similar lines to the basic Western Humanities sequence, the course content is selected from the philosophy, literature, arts and music of Latin-American countries.

HUM 2513 Museum Without Walls. F, W, S, SS.
Credits: 4
Films and selected readings will be used to study a select sequence of the greatest and/or most challenging works of painting, sculpture and architecture in the Western tradition, viewed as demonstrations of Western man's concepts of self, Nature and God.

HUM 2930 Special Topics. F, W, S, SS.
Credits: 4; May be repeated, with change of content.
Multi-disciplinary general education courses on topics to be announced prior to each registration. May be used as an elective or as a requirement in the area of Humanities.

HUM 3220 Hellenistic Culture and the Judeo-Christian Tradition. W, S.
Credits: 4; Prereq: HUM 2210 or an Introductory Course in Ancient Religion, Philosophy and Classics.
A study of the amalgam which emerged in the Hellenistic world during the three centuries following Alexander the Great. Special attention will be given to the cultural responses of the Jewish people and to the lasting effects on Hebrew and Christian tradition.

HUM 3244 Cultural Revolution: Humanities of the Eighteenth and Nineteenth Centuries. W.
Credits: 4
An interdisciplinary study of the major cultural shift — often characterized as the passage from classicism to romanticism (or from "reason" to "revolution" — that took place during the eighteenth and nineteenth centuries. The effects of the shift will be observed across a wide range of discipline.

HUM 3251 Humanities Interpretations of the Twentieth Century. F, S.
Credits: 4
The course will examine techniques of studying employed in Humanities disciplines. The purpose is to demonstrate the ways in which the "ideology" of a given theory of man determines how the practitioners of that methodology interpret both historical events and cultural forms of expression; and to consider these matters in three parts: Forms, History, and Meaning and Interpretation.

HUM 3411 Advanced Asian Humanities. S.
Credits: 4
An interdisciplinary course which studies in depth aspects of the philosophy, literature, art and music of India, China and Japan. Consideration of architecture, theater and dance is also included.

HUM 3421 Advanced African Humanities. S.
Credits: 4; Prereq: HUM 2420 or AFS 2002.
Focuses on traditional and modern forms of religious and philosophical beliefs, Literature, Art, architecture and music of Africa.

HUM 3431 Classical Hellenic Thought and Culture, Their Origins and Development. F.
Credits: 4
An examination of the total culture of ancient Greece, including the literature, philosophy, religion, art, and architecture. The goal of the course is to offer the student an opportunity to make an in-depth study of this vital culture which lies at the beginning of our Western heritage.

HUM 3435 Medieval Culture. W, S.
Credits: 4
Readings will demonstrate the breadth and complexity of Western medieval culture from the 10th through the 14th Century. The course will focus on the heterogeneity of the Middle Ages and on the renewed emphasis on the individual in that period.

HUM 3437 The Renaissance Creativity and the Origins of Modern Culture. W, S.
Credits: 4
A study of Renaissance literature, philosophy, art and music seen as offering new departures that continue significantly to affect the development of the West in the humanities and sciences alike.

HUM 3473 The Age of the Avant-Garde. F, S.
Credits: 4
An examination of the revolutionary, experimentalist aspects of modern and contemporary culture, including such early movements as Cubism and Surrealism, as well as current movements such as Structuralism and Conceptualism, considered in an interdisciplinary context. Representative materials will be selected from the fields of the visual arts, literature, philosophy, and music.

HUM 3930 Special Topics. F, W, S, SS.
Credits: 4; May be repeated, with change in content.
Multi-disciplinary general education courses on topics to be announced prior to each registration. May be used either as an elective or as a requirement in the area of the Humanities.

Interdisciplinary Studies

IDS 2190 Ascent of Man. F, SS.
Credits: 4
The course uses Jacob Bronowski's celebrated video lectures *The Ascent of Man* and selected readings to explore the mind of man, the great turning points in every age, and man's evolving fulfillment of his human potential.

INDUSTRIAL AND SYSTEMS ENGINEERING
College of Engineering

INSTRUCTIONAL STAFF 1979-80

Elzinga, D.J., Chairman; Burns, J.F.; Capehart, B.L.; Francis, R.L.; Hearn, D.W.; Hodgson, T.J.; Kalman, R.E.; Kilpatrick, K.E.; Leavenworth, R.S., Mahoney, J.F.; Muth, E.J.; Nattress, J.A.; Sivazlian, B.D.; Swain, R.W.; Valisalo, P.E.; Wilcox, D.B. (emeritus).

Computational Numerical Methods

CNM 3100 Numerical Techniques. F, W, S, SS.
Credits: 2; Prereq: EIN 3114; Coreq: MAP 3302.
Major techniques for solving problems quantitatively through the use of computers and computer programming languages. Numerical and computer solutions to elementary systems of algebraic equations and ordinary differential equations.

Engineering: Computer Mathematics
GRADUATE COURSE

ECM 6260 Numerical Techniques for Linear Systems.
Credits: 3

Engineering: Industrial

COP 3212 Computer Programming for Engineers. F, W, S, SS.
Credits: 3; Prereq: MAC 3312.
Computer programming and the uses for large scale digital computers. Emphasis will be placed on the scientific oriented computer language FORTRAN. Engineering and technical problems are solved by each student using the facilities of the Computer Center. This course is specifically directed toward those students who are pursuing technical careers in fields employing a reasonably high degree of mathematics.

EIN 3304 Industrial and Service Process. W.
Credits: 3
Overview of process and operations in manufacturing and service industries. Industrial and Systems Engineering applications are developed within the context of selected industries.

EIN 3314L Work Design. F, S.
Credits: 3; Prereq: STA 4321.
The analysis, design and maintenance of work methods. Principles, techniques and procedures for determination and audit of time standards. The study of synthetic time systems and work sampling. Consideration of factors affecting successful implementation and maintenance of a methods engineering program. Laboratory.

EIN 3373 Job Evaluation. W.
Credits: 2; Prereq: EIN 3314L.
Analysis of factors affecting job value. Analysis of several systems for determining the relative worth of jobs. Wage plan development, wage surveys, group and individual incentives, and merit rating. Consideration of factors affecting successful implementation and maintenance of a wage administration program.

EIN 4105 Specifications, Contracts, Ethics, and Industrial Safety. W.
Credits: 3; Prereq: Upper Division classification.
Contracts and contracting procedures and documents; specifications; professional ethics and responsibilities; legal obligations of employers and safety techniques.

EIN 4212 Accident Prevention Engineering. W.
Credits: 3; Prereq: Upper Division classification.
Workmen's Compensation provisions. Safety standards, procedures and equipment. Organization and conduct of employee safety training.

EIN 4243 Human Engineering. W, SS.
Credits: 3; Prereq: Upper Division classification, STA 4321, STA 4322.
Design, analysis, and evaluation of man-machine systems. Emphasis on interaction of human and non-human components and resultant effect upon total system performance. Discussion of man's physical, mental and psychological characteristics and limitations.

EIN 4333 Production Control Systems. F. S.
Credits: 3; Prereq: EIN 3314, EIN 4354, ESI 4313, STA 4322.
Analysis of production systems, forecasting, methods of control, material flow systems, scheduling, sequencing, lot size scheduling, project management.

EIN 4335 Production Systems Analysis and Design. F, S.
Credits: 3; Prereq: EIN 4365.
Total production systems design. Integration of production subsystems design with concentration on methods of successful implementation. A project and case study oriented course. Laboratory.

EIN 4344 Inventory Systems. F, S.
Credits: 3; Prereq: ESI 4313.
Deterministic and probabilistic inventory models for single-item and multi-item systems. Application of dynamic programming. Inventory processes analyzed as stochastic processes. Concept of optimal policy. Constrained inventory systems. Analysis of distribution systems.

EIN 4354 Engineering Economy. F, W, S, SS.
Credits: 3 Prereq: Upper Division classification.
Basic principles and applications of economic decision-making between alternatives encountered in engineering systems projects. The analysis will include methodologies of economics, accounting and finance in addition to engineering fundamentals.

EIN 4355 Economic Decision Models. W.
Credits: 3; Prereq: EIN 4354 and ESI 4312.
Fundamental principles of engineering evaluation and decision-making under conditions of uncertainty, risk, and assumed certainty. Included are the Laplace principle, Hurwicz criterion, Savage regret, and minimum-variance expectation principles. Problems of data collection and analysis are discussed. System production functions are studied.

EIN 4365 Facilities Planning. W.
Credits: 3; Prereq: ESI 4312, ESI 4313, ESI 4523.
Principles, methods, and techniques for analyzing existing and designing proposed plant facilities. The problems involved in and the interrelationships of plant location, product analysis, process design, equipment selection, materials handling, plant arrangement and supplementary services.

EIN 4905 Special Problems in Industrial and Systems Engineering. F, W, S, SS.
Credits: 1 to 6
Problems and systems studies associated with honors programs representing undergraduate research. Selected advanced topics including new developments and techniques in industrial and systems engineering. May be repeated up to a maximum of 12 credits.

EIN 4937 Industrial and Systems Engineering Seminar. F, W, S.
Credits: 1; Prereq: ESI 4313.
Lectures and discussions on general and specific engineering problems. Individual investigations and research reports on assigned topics. Orientation for an industrial career.

EIN 4944 Practical Work in Industrial and Systems Engineering. F, W, S, SS.
Credits: 1 to 5; Prereq: 4EG classification; one term industrial employment, including extra work according to a preapproved outline.
Practical engineering work under industrial supervision as set forth in the College of Engineering Regulations.

GRADUATE COURSES

EIN 5244 Measurements in Bioengineering.
Credits: 3

EIN 6115 Information Systems.
Credits: 3

EIN 6246L Human Factors Engineering.
Credits: 3

EIN 6247 Man-Machine Systems Design.
Credits: 3

EIN 6249 Behavior Systems Engineering.
Credits: 3

EIN 6318 Work Measurement Theory.
Credits: 3

EIN 6338 Advanced Production Control.
Credits: 3

EIN 6348 Mathematical Theory of Inventory.
Credits: 3

EIN 6357 Advanced Engineering Economy.
Credits: 3

EIN 6358 Decision Theory.
Credits: 3

EIN 6367 Facilities Systems Design.
Credits: 3

EIN 6388 Statistical Forecasting Models.
Credits: 3

EIN 6508 Health Systems Analysis 1.
Credits: 4

EIN 6509 Health Systems Analysis 2.
Credits: 4

EIN 6905 Special Problems.
Credits: 1 to 9

EIN 6910 Supervised Research.
Credits: 1 to 5††

EIN 6918 Graduate Seminar.
Credits: 1††

EIN 6939 Seminar in Applied Stochastic Processes.
Credits: 3

EIN 6940 Supervised Teaching.
Credits: 1 to 5††

EIN 6971 Master's Research.
Credits: 1 to 15††

EIN 7933 Special Problems.
Credits: 1 to 9

EIN 7980 Doctoral Research.
Credits: 1 to 15††

Engineering Systems-Industrial

ESI 3123 Analog Computer Principles. F, W, S, SS.
Credits: 2; Prereq: MAP 3302.
Basic principles and uses of analog computer. Consideration of solution of simultaneous algebraic and differential equations as well as elementary simulation techniques. Laboratory.

ESI 3154C Process Control Computer Programming. W, SS.
Credits: 3; Prereq: CNM 3100.
Basic principles and uses of process control digital computers. Consideration of analog-to-digital and digital-to-analog conversions and process automated systems control. Laboratory using automated warehouse and mini-computers.

ESI 3305 Introduction to Industrial and Systems Engineering. F, S.
Credits: 3; Prereq: EIN 3114 and MAC 3314.
Introduction to the philosophy and methodology of operations research. Problem formulation and mathematical modeling of problems encountered in industrial and systems engineering.

ESI 4221 Industrial Quality Control. F, S.
Credits: 3; Prereq: STA 4321.
Factors affecting product quality are identified and analyzed as they affect variations in and levels of quality performance. The concept of control of quality is introduced. Techniques of controls are studied including control charts and statistical sampling for process and lot conformance. The measurement of the significance of control factors is studied.

ESI 4235 Methods of Reliability Engineering. S.
Credits: 3; Prereq: STA 4321.
Role and activities of reliability engineering. Models for equipment failure. Reliability function and hazard function. Typical failure distribution. Reliability of redundant systems. Models of repair and maintenance.

ESI 4312 Operations Research 1. F, W.
Credits: 3; Prereq: ESI 3305 and ESI 4567.
Classical optimization; method of Lagrange multipliers, Kuhn-Tucker conditions; research techniques; convex programming; linear programming; sensitivity analysis; transportation and assignment algorithms.

††Grading is on S-U basis only.

INTERIOR DESIGN

ESI 4313 Operations Research 2. W, S.
Credits: 3; Prereq: ESI 4312, ESI 4568, STA 4321.
Branch and Bound methodology; dynamic programming; queueing theory; Markov chains; network analysis.

ESI 4523 Industrial Systems Simulations. F, S.
Credits: 3, Prereq: ESI 3502, STA 4321.
Simulation methodology, languages and design. Monte Carlo technique, GPSS (General Purpose Simulation System), and Industrial Dynamics applied to the solution of industrial problems.

ESI 4545 Stochastic Systems. W.
Credits: 3; Prereq: EIN 4354 and STA 4322.
Development and application of probability models in the output analysis of production systems. Applications of probability theory to systems design for reliability, safety, and effectiveness. Formulation of system behavior as a stochastic process.

ESI 4554 Systems Design. W, S.
Credits: 3; Prereq: ESI 3123 and ESI 3502. Coreq: ESI 4313.
The design of complex integrated systems using principles of operations research and systems analysis. A design laboratory gives the student experience in modeling and computer simulation of system design configurations and prototype experimentation.

ESI 4560 Numerical Techniques in Systems Engineering. F, S.
Credits: 3; Prereq: EIN 3114 and ESI 4567.
A study of numerical techniques suitable for computer solution of problems involving interpolation, zero-finding, matrix operations, eigen-values, eigenvectors, differentiation, integration, relaxation and differential equations, error analysis.

ESI 4567 Matrix Methods in Systems Engineering. F, W, SS.
Credits: 3; Prereq: MAC 3314.
Theory and application of vector spaces and matrices to systems problems. Analysis of linear transformations, simultaneous linear equations, characteristic values, and quadratic forms. Convex sets, n-dimensional geometry, and an introduction to system theory.

ESI 4568 Transform Methods in Systems Engineering. F, W, S.
Credits: 3; Prereq: MAP 3302.
Solutions of differential, integral and difference equations arising in systems engineering and operations research problems using Laplace and Z-transform methods. Operational approaches will be stressed.

ESI 4569 Dimensional Methods in Systems Engineering. S.
Credits: 2; Prereq: ESI 4567 or equivalent or consent of instructor.
A utilization of dimensional methods to include: systems of units, the notion of homogeneity, calculational methods, simplification of boundary and initial value problems, similarity.

ESI 4949 Co-Op Work Experience. F, W, S, SS.
Credits: 1 to 5
Practical engineering work under industrial supervision, as set forth in the College of Engineering Regulations.

GRADUATE COURSES

ESI 5125 Analog Simulation Techniques. F, S.
Credits: 3

ESI 5135 Hybrid Computer Techniques. W.
Credits: 3

ESI 5236 Reliability Engineering. S.
Credits: 3

ESI 5307 Operations Analysis 1. SS.
Credits: 3

ESI 5308 Operation Analysis 2. SS.
Credits: 3

ESI 5309 Operations Research: A Survey of Techniques and Applications. W.
Credits: 4

ESI 5570 Digital Computer Techniques 1. F, S.
Credits: 3

ESI 5571 Digital Computer Techniques 2. W.
Credits: 3

ESI 6127 Analog Computer Techniques.
Credits: 3

ESI 6136 Analog-Hybrid Systems.
Credits: 3

ESI 6137 Advance Hybrid Computer Techniques.
Credits: 3

ESI 6222 Statistical Quality Control.
Credits: 3

ESI 6239 Reliability Theory.
Credits: 3

ESI 6316 Mathematical Methods of Operations Research 1.
Credits: 3

ESI 6317 Mathematical Methods of Operations Research 2.
Credits: 3

ESI 6337 Queueing Theory.
Credits: 3

ESI 6349 Markov Decision Processes for Engineers.
Credits: 3

ESI 6358 Games and Gaming.
Credits: 3

ESI 6408 Introduction to Optimization Theory.
Credits: 3

ESI 6417 Linear Programming.
Credits: 3

ESI 6418 Extensions of Linear Programming.
Credits: 3

ESI 6429 Nonlinear Programming.
Credits: 3

ESI 6438 Dynamic Programming.
Credits: 3

ESI 6439 Dynamic Optimization Theory.
Credits: 3

ESI 6448 Discrete Optimization Theory.
Credits: 3

ESI 6458 Flows in Networks.
Credits: 3

ESI 6499 Advanced Topics in Mathematical Programming.
Credits: 1 to 4

ESI 6508 Systems Analysis 1.
Credits: 3

ESI 6509 Systems Analysis 2.
Credits: 3

ESI 6526 Industrial Dynamics 1.
Credits: 3

ESI 6527 Industrial Dynamics 2.
Credits: 3

ESI 6528 Dynamic Modeling and Simulation.
Credits: 3

ESI 6529 Digital Simulation Techniques.
Credits: 3

ESI 6546 Stochastic Systems Analysis 1.
Credits: 3

ESI 6547 Stochastic Systems Analysis 2.
Credits: 3

ESI 6548 Stochastic Service Systems.
Credits: 3

ESI 6558 Advanced Systems Design.
Credits: 3

INTERIOR DESIGN
College of Architecture

INSTRUCTIONAL STAFF 1979-80
McFarlane, J., Director; Tate, S.; Young, M.

IND 3100 History 1. W.
Credits: 4
Historic interior styles to the end of the 16th century, with emphasis on their cultural settings.

IND 3130 History 2. S.
Credits: 4
Historic interior styles from the beginning of the 17th century to 1930, with emphasis on their continuing cultural settings.

IND 3215 Interior Design 1. F.
Credits: 5; Prereq: ARC 2313.
The study of design elements real and abstract involved in the solution of interior space.

IND 3216 Interior Design 2. W.
Credits: 5; Prereq: IND 3215.
Continuation of Interior Design 1.

IND 3217 Interior Design 3. S.
Credits: 5; Prereq: IND 3216.
Continuation of Interior Design 2.

IND 3311 Interior Architectural Drawing. F.
Credits: 4; Prereq: ARC 1126
Advanced Interior Design 2 and 3 dimensional drawing.

IND 3420 Interior Furnishing 1. F.
Credits: 4; Coreq: IND 3215.
The study of the relationships of materials and furnishing in the design of interior space.

IND 3421 Interior Furnishings 2. W.
Credits: 4; Prereq: IND 3420.
Continuation of Interior Furnishings 1.

IND 3422 Textiles. S.
Credits: 4
Studies of textiles, selection, maintenance, fabrication. Emphasis on natural and synthetic fibers used in drapery, upholstery, and wall covering fabrics and floor coverings.

IND 3430 Interior Furnishings 3. S.
Credits: 4; Prereq: IND 3421.
Continuation of Interior Furnishings 2.

IND 4222 Advanced Interior Design 1. F, SS.
Credits: 8; Prereq: IND 3217.
Design problems involving commercial, institutional and public areas.

IND 4223 Advanced Interior Design 2. F, W.
Credits: 8; Prereq: IND 4222.
Continuation of Advanced Interior Design 1.

IND 4226 Advanced Interior Design 3. W, S.
Credits: 8; Prereq: IND 4223.
Terminal project involving all the principles of design studies in previous courses.

IND 4240 Interior Design for Architects. W, SS.
Credits: 5; Prereq: ARC 4322.
Advanced problems in the design of commercial and institutional interiors.

IND 4451C Applied Design Connections. F.
Credits: 4; Prereq: ARC 3462.
Application of the architectural design process to the assemblage and detailing of a small-scale building.

IND 4500 Practice of Interior Design. W.
Credits: 4; Prereq: IND 4222.
Administration of interior design operations; estimating, professional relations, legal forms, specifications and supervision.

JOURNALISM
College of Journalism and Communications

INSTRUCTIONAL STAFF 1979-80

Roosenraad, J.A., Chairman; Brines, R.L.; Carson, L.M.; Chance, J.C.; Davis, H.G.; Griffith, J.L.; Griggs, H.H.; Kent, K.E.; Martin, D.F., Parrish, F.S.; Pierce, R.N.; Smith, J.A.; Weston, E.G.; Yates, E.D.

Offerings in journalism are designed primarily for training professional journalists in newspaper and magazine reporting, writing, editing and interpretation. Students interested in major work in print journalism are referred to the requirements of the College of Journalism and Communications, which offers reporting, editing and photojournalism sequences within its Journalism Department. Students also are referred to College course offerings in Broadcasting, Advertising, Public Relations and Technical Communications. College of Journalism and Communications courses may be taken for elective credit by students in all Upper Division units of the University.

Journalism

JOU 3100 Reporting I. F, W, S, SS.
Credits: 4; Prereq: MMC 2100 with at least a C, ability to type 30 words a minute.
Instruction and practice in news gathering and writing of basic news stories, with special attention given to news format and the execution of reporting assignments.

JOU 3101 Reporting II. F, W, S.
Credits: 4; Prereq: JOU 3110, JOU 3100, with at least a C.
Instruction and practice in solving complex news problems, with opportunities to cover continuing stories, to background the news, and to handle diverse news assignments simultaneously. Emphasis on enterprise, documentation and use of multiple sources in presenting the significance of events.

JOU 3110 Fact Finding. F, W, S.
Credits: 3
Locating and interpreting basic sources used in reporting and editing news. Students will work with standard reference works and public records, practice interviewing skills, learn to analyze and interpret charts, reports and statistics commonly used by news media, and study survey research as used in reporting.

JOU 3204 Graphics of Journalism. W.
Credits: 3; Prereq: Junior standing or above in the College of Journalism & Communications or permission of instructor.
Introduction to the use of photographs, type, drawings, graphs and charts.

JOU 3600 Survey of Photojournalism. F, W, S, SS.
Credits: 3; Prereq: Junior standing or above in the College of Journalism & Communications or permission of instructor.
Terminal course not open to Department of Journalism students. Introduction to journalistic still photography; visualization; selection and use of photographs for the print media; legal, historical, stylistic, ethical and technical aspects. Required student picture-taking and darkroom work minimal. Students must furnish supplies.

JOU 3601 Journalistic Photography I. F, W, S, SS.
Credits: 4; Prereq: Junior standing or above in the College of Journalism & Communications or permission of instructor.
Practice and study in reportorial still photography, including darkroom techniques; visualization; selection and use of photographs for the print media; legal, historical, stylistic and ethical aspects of journalistic still photography. Students must furnish supplies.

JOU 4004 History of Journalism. F, W.
Credits: 4
Origin, development and potentiality of printed media, with emphasis on the daily and weekly press. Analysis will be made of the evolution of standards, policies, methods and controls.

JOU 4104 Public Affairs Reporting. F, W, S, SS.
Credits: 4; Prereq: JOU 3110, JOU 3100, JOU 3101 with at least a C.; junior standing or above in the College of Journalism and Communications.
Instruction and practice in reporting public affairs, with special emphasis upon responsible news coverage of city, county and state government.

JOU 4200 Newspaper Editing I. F, W, S. SS.
Credits: 4; Prereq: JOU 3110, JOU 3100.
Fundamental instruction and practice in essentials of news editing, with special emphasis on editing the weekly and daily newspaper. Included are copyreading, headline writing, makeup and typography.

JOU 4202 Newspaper Editing II. S.
Credits: 4; Prereq: JOU 4200, PUR 4103.
Career newspaper editing; emphasis on creativity in editing, layout and design, color, decision making, news selection and judgment, technology and production, and publication trends.

JOU 4300 Magazine and Feature Writing. F, W, S. SS.
Credits: 4; Prereq: JOU 3100 or permission of the instructor.
Preparation of articles for publication in newspapers and magazines coordinated with study of magazine editing problems. Supervised marketing of articles produced in the course.

JOU 4301 Specialized Journalism. S.
Credits: 4; Prereq: JOU 3100, JOU 3101 with at least a C, Senior standing.
Study and practice in advanced journalism including reviewing. Students may select a specialty and may work in writing or in writing and photography together. Photo option requires students to furnish supplies and camera.

JOU 4302 Public Opinion and Editorial Analysis. F, W, S. SS.
Credits: 4; Prereq: Senior standing.
Public opinion as a force in government and daily life; introduction to persuasive writing as a practical means of influencing public opinion.

JOU 4311 Advanced Feature Writing Seminar. F, S.
Credits: 4; Prereq: Grade of B in JOU 4300 or instructor's approval.
Preparation of material for national publication after thorough critique by members of the seminar and study of advanced techniques of copy editing and marketing.

JOU 4602 Advanced Reportial Photography. W.
Credits: 5; Prereq: JOU 3601 or permission of the instructor.
Practice and study in journalistic still photography with reportorial emphasis; black and white and color; trends, managerial aspects and social implications. Students must furnish supplies and camera.

JOU 4700 Problems and Ethics of Journalism in Society. F, W, S, SS.
Credits: 4; Prereq: Senior standing in the College of Journalism and Communications.
Reading, analysis and planning in current and projected issues in journalism, both in their professional and societal aspects.

JOU 4800 Journalism in Secondary Schools. SS.
Credits: 5; Prereq: Senior standing; Coreq: MMC 2100.
Open only to students seeking certification. This course is designed for persons who plan to teach journalism in secondary schools, or who act as faculty advisers for school newspapers, magazines or yearbooks.

JOU 4905 Individual Problems in Journalism.
Credits: 1 to 5; Prereq: At least 15 hours of journalism in the Upper Division and approval of the Dean.
Students and the instructor concerned will choose a problem or project which will give the student actual experience in his major field.

JOU 4930 Special Study in Journalism.
Credits: 1 to 5; Prereq: Senior standing in journalism and permission of instructor.
Variable content, providing opportunity for study in academic areas of journalism such as the Literature of Journalism, and other fields within the province of the College.

JOU 4940 Journalism Internship. F, W, S, SS.
Credits: 1 to 5††; Prereq: Minimum of 15 hours of professional courses earned and a 2.5 grade point average. Must have advance approval from academic adviser, department and college offices to receive credit.
Student and instructor will select an appropriate work area related to the field of journalism for on-the-job training. Student will work a minimum of three hours on the job for every hour of credit to be received. Progress reports and summary required. May be repeated with change of content up to a maximum of 10 credits.

JOU 4946 Applied Journalism. F, W, S, SS.
Credits: 5; Prereq: JOU 4104 and JOU 4200.
A Senior course bringing together the work of the preceding news courses into actual experience and newsroom training in the preparation and handling of news copy, pictures and syndicated materials.

JOU 4949 Co-op Work Experience. F, W, S, SS.
Credits: 1††; Prereq: Minimum of 15 hours of professional courses earned and a 2.5 GPA. Must have advance approval from academic adviser, department and colleges offices to receive credit. Practical co-op work experience relating to journalism under approved business, institutional or governmental supervision. May be repeated with changed work program upon departmental approval.

Mass Media Communication

MMC 1000 Survey of Mass Communication. F, W, S.
Credits: 3
An introduction to the various media of mass communication, with special emphasis on the roles and responsibilities to society and the publics they serve.

MMC 2100 Writing for Mass Communication. F, W, S, SS.
Credits: 4; Prereq: Nine hours of English; Sophomore standing or above; ability to type 20 words a minute.
A preprofessional course designed to provide fundamental instruction and practice in writing as a basis for Upper Division courses.

MMC 4200 Law of Mass Communication. F, W, S, SS.
Credits: 4; Prereq: Senior standing in the College of Journalism.
Understanding the law which guarantees and protects the privileges and defines the responsibilities of the mass media. Includes problems of constitutional law, libel, privacy and governmental regulations.

MMC 4301 World Communication Systems. W.
Credits: 4
Theoretical bases of world mass media systems; international channels of communications, analysis of press and broadcasting systems by regional and national categories.

MMC 4420 Applied Research in Mass Communication. S.
Credits: 3
Research applications for print and public relations organizations. Role of research in decision making. Evaluation of surveys and experiments.

††Grading is on S-U basis only.

LATIN AMERICAN STUDIES

GRADUATE COURSES

With permission of the Instructor and the College, an undergraduate may enroll in graduate-level courses if the student has Senior standing and an Upper Division grade-point average of at least 2.8. Such courses are listed under "Communication" in this catalog and are described under "Journalism and Communications" in the graduate school catalog. Students interested in graduate work are referred to course offerings under Communication.

LANDSCAPE ARCHITECTURE
College of Architecture

INSTRUCTIONAL STAFF 1979-80

Smith, H.H., Program Director; Sanderson, J.A.; Donelin, D.; Fowler, K.; Linscott, L.

LAA 2710 Landscape Architecture 1. W, SS.
Credits: 4
Esthetic and economic theory of landscape design, from antiquity through the 18th century.

LAA 2711 Landscape Architecture 2. F, S.
Credits: 4
19th and 20th century landscape architecture with emphasis on the bionomic relationships of natural and created landscape.

LAA 3330C Site Analysis. F.
Credits: 4, Coreq: LAA 3350L.
Survey and development of building sites.

LAA 3350L Landscape Architectural Design 1. F.
Credits: 5; Prereq: ARC 2313C.
Program organization, generation of exterior spaces, horizontal circultion; site studies based on individual and group functions.

LAA 3351L Landscape Architectural Design 2. W.
Credits: 5; Prereq: LAA 3350L.
Continuation of LAA 3350L with increasing emphasis on horizontal circulation, textural and scale relationships.

LAA 3352L Landscape Architectural Design 3. S.
Credits: 5; Prereq: LAA 3351L.
Continuation of LAA 3351L with emphasis on roadway alignment, parkway and roadside development; site studies based on large group functions.

LAA 3420 Landscape Construction 1. F.
Credits: 4; Coreq: LAA 3350L.
Characteristics of land form and the effects of grading on drainage, soils and location of landscape architectural elements.

LAA 3421 Landscape Construction 2. W.
Credits: 4; Prereq: LAA 3420.
Design of non-habitable structures, pavings, trails, low retaining walls and irrigation system layouts.

LAA 3510 Planting Design. S.
Credits: 5; Prereq: LAA 3351L.
Plant materials as major design elements and the execution of planting plans; specifications and cost estimates.

LAA 3530 Landscape Management. S.
Credits: 4; Prereq: ORH 3514C and LAA 3351L.
Survey of landscape management problems with emphasis on institutional, urban and regional landscapes.

LAA 4210 Professional Administration. F.
Credits: 5; Prereq: Senior standing.
The preparation of cost estimates and specifications based on different project types, programming of landscape development. Office administration, contracts, professional ethics.

††Grading is on S-U basis only

LAA 4355L. Advanced Landscape Architectural Design. 1. F, SS.
Credits: 8; Prereq: LAA 3351L and LAA 3510.
Large scale and planning projects with emphasis on team and collaborative processes.

LAA 4356L Advanced Landscape Architectural Design 2. F, W.
Credits: 8; Prereq: LAA 4355L.
Continuation of Advanced Landscape Architectural Design 1.

LAA 4357L Advanced Landscape Architectural Design 3. W, S.
Credits: 8
A terminal comprehensive project based on the principles of previous studies. Additional sketch problems may be given.

LAA 4410L Design Implementation. F, SS.
Credits: 4; Prereq: Senior standing in the major.
The issues of large scale and complex landscape development as related to interdisciplinary responsibility, scheduling costs and labor are investigated. Design, construction and management evaluations.

LAA 4905 Special Studies in Landscape Architecture. W, S, SS.
Credits: 2 to 4; Prereq: Senior standing in landscape architecture or architecture, or graduate standing in Planning, or consent of instructor.
Studio investigations of special topics in landscape architecture adjusted to individual needs of advanced undergraduate and graduate students. Students may repeat for a maximum of 8 credits.

LAA 4930 Senior Seminar. W, S.
Credits: 3; Prereq: Senior standing.
Reports, project presentations, visiting lecturers.

LAA 4940 Landscape Architecture Internship. F, W, S, SS.
Credits: 1 to 3; Prereq: Approval of academic adviser.
Internship is designed to introduce students to full-time workings of private/public sector offices under the directin of responsible professionals in the related design disciplines. May be repeated.

LATIN AMERICAN STUDIES
College of Liberal Arts and Sciences

THE LATIN AMERICAN FACULTY

Schulman, I A., Director; McCoy, T.L., Associate Director; Antonini, G.A.; Trueblood, F.M.; Suarez, A.; Soares, G.

In addition to the six faculty members listed above, the Latin American Faculty consists of 60 members from 12 departments, who teach 192 courses with Latin America content available to undergraduates in the Latin American Studies Program.

The Center for Latin American Studies offers a Certificate in Latin America Studies, based upon a special curriculum and a departmental major leading to the degree of Bachelor of Arts or Bachelor of Science in the College of Liberal Arts and Sciences, the College of Agriculture, the College of Education, the College of Journalism and Communications and the College of Business Administration.

For a description of the Undergraduate Programs in Latin American Studies see CENTER FOR LATIN AMERICAN STUDIES and STUDY ABROAD. Also consult the course offerings of the various departments in this catalog, the Graduate School Catalog, and the Bulletin published by the Center for Latin American Studies. Copies of the Bulletin may be obtained at 319 Linton E. Grinter Hall.

UNDERGRADUATE COURSES

LAS 2001 Latin American Civilization. S.
Credits: 5
Interdisciplinary introduction to the study of Latin American societies and cultures. The course serves to give the student a general knowledge of the Latin American area and its people as well as provide a basis for further course work in the field of Latin American Studies.

LAS 4905 Individual Work. F, W, S, SS.
Credits: 1 to 5; For Undergraduates only.
Qualified students may choose a topic which focuses on the Latin America area but which cuts across disciplines. Prior consent is needed from instructor involved. May be repeated with change of content up to a maximum of 15 credits.

LAS 4935 Latin American Area Seminar. F, W, S, SS.
Credits: 5; Prereq: Latin American area concentration.
A multidisciplinary approach to Latin American topics. Required of all candidates for B.A./B.S. certificate in Latin American Studies. May be repeated with change of content up to a maximum of 15 credits.

GRADUATE COURSES

LAS 6905 Individual Work. F, W, S, SS.
Credits: 1 to 5

LAS 6938 Latin American Area Seminar. F, W.
Credits: 5; Maximum of 15 credits.

LAS 6971 Master's Research. F, W, S, SS.
Credits: 1 to 15††

Law

GRADUATE COURSES

LAW 6285 Latin American Legal Institutions Seminar. S.
Credits: 2

LAW 6286 Latin American Trade and Investment Seminar. W, SS.
Credits: 2

LAW 6935 Law Seminar Preparation. F, W.
Credits: 1

LIBERAL ARTS AND SCIENCES
College of Liberal Arts and Sciences

General and Cross-Departmental Courses

Afro-American Studies

Foreman, R.C., Director

Core courses

AFA 2000 Introduction to Afro-American Studies. F, W, SS.
Credits: 4
An integrative interdisciplinary exploration serving to introduce the student to selected themes in the study of the contemporary Afro-American experience, emphasizing continuity and change in cultures and societies of people of African origin.

AFA 4936 Afro-American Studies Senior Integrative Seminar, I. F, A.
Credits: 4; Prereq: Senior standing and permission of the director of the Afro-American Studies program.
An intensive examination of the bibliographic material and an analysis of theory, method, and special problems in the field of Afro-American Studies. The relevance of different disciplines to the study of common problems will be explored.

AFA 4937 Afro-American Studies Senior Integrative Seminar, II. W, SS.
Credits: 4; Prereq: ASC 453 and permission of the director of the Afro-American Studies program.
A research seminar providing directed investigation on topics of interdisciplinary interest to scholars in diverse fields.

Elective courses (See descriptions under departmental listings)

ANT 4451 Racial and Cultural Minorities.
Credits: 5

LIT 3321 Ethnic Literature.
Credits: 4

LIT 3342 Afro-American Literature.
Credits: 4

ECP 4143 Blacks in the American Economy.
Credits: 5

AFH 3100 Africa to 1800.
Credits: 4

AMH 4170 Slavery and Civil War in the U.S.
Credits: 4

AMH 4572 Reconstruction and Race Relations.
Credits: 4

AMH 4578 Problems in Afro-American History, 1862 to the Present.
Credits: 4

AMH 4579 Colloquium, History of the Afro-American.
Credits: 4

MUH 4116 History of Jazz.
Credits: 4

MUH 4561 Music of Black Americans.
Credits: 4

PUP 4003 Issues in American Politics.
Credits: 4

PUP 4313 Minorities and Change in American Politics.
Credits: 4

SOC 2020 Social Problems.
Credits: 4

SOC 3745 Minorities in American Society.
Credits: 4

SOC 4720 Black America: Current Problems.
Credits: 4

African Studies

AFS 2002 The African Experience—An Introduction to African Studies. F, W, S.
Credits: 4
An introductory interdisciplinary study of African society and culture that examines the richness, diversity, and time-depth of African civilizations.

AFS 4935 African Studies Interdisciplinary Seminar. W.
Credits: 3; Prereq: Upper-division standing or approval of instructor.
A research seminar on a selected interdisciplinary theme. May be repeated for credit when course theme is different up to a maximum of 9 credits.

Engineering: General

EGN 4834 Humanistic Issues in Engineering. S.
Credits: 4
Studies in the relation of the humanities to engineering and applied science.

European Studies

EUS 4935 European Studies Seminar. W.
Credits: 4; Prereq: Senior standing and permission of adviser of Western European Studies Program. Contact Prof. Frank Taylor for further information, 392-1518.

Health Care Administration

HSC 1005 Introduction to Medicine and Dentistry. F. S.
Credits: 1††
The role of medicine and dentistry in today's society; preprofessional preparation; professional school admission standards and criteria, medical practice and professional ethics. Designed to provide insight into the nature of the medical profession, skills required in its practice and the opportunities for careers following graduation from professional school.

HCA 4102 Humanistic Issues in Health Care: Nursing, Health-Related Professions, and Pharmacy. W.
Credits: 4
Students are selected by pre-professional advisors for participation in the program. Studies in the significance of values, humanities constructs and methods of inquiry as related to crises, problems, and decisions found in allied health fields. Course will focus on the physician-patient relationship.

HCA 4410L Humanistic Issues in Health Care: Medicine. F, S.
Credits: 4
Students are selected by pre-medical advisors for participation in the program. Studies in the significance of values, humanities constructs and methods of inquiry as related to crises, problems, and decisions found in contemporary medical care. Course will focus on the physician-patient relationship.

Humanities

HUM 4563 Law Humanities: The Metaphors of Culture F.
Credits: 4
Students are selected by their advisors for participation in the program. Studies in the relationships between law and language.

HUM 4564 Humanities and Law: Constitution and Culture. W.
Credits: 4
Students are selected by pre-law advisors for participation in the program. Studies in the relation of law to history, society, and human values. The course will attempt to define law as a manifestation of human cultures and basic values.

Interdisciplinary Studies

IDS 1120 Introduction to the Legal Profession. F, S.
Credits: 1††
The role of law in today's society; prelaw preparation; law school admission standards and criteria; law practice and the legal profession. Designed to provide insight into the nature of the legal profession, the skills required in the practice of law, and the opportunities for careers following graduation from law school.

IDS 1920 Frontiers of the Mind. F, S.
Credits: 2††
Designed to expose entering Freshman to the most gifted and renowned teacher-scholars in the various colleges.

IDS 2180 Responsible Alternatives to Alcohol Abuse. F, W, S.
Credits: 2
This course examines alcoholism in its social, psychiatric, cultural, physiological and chemical dimensions, through a variety of academic and off-campus lectures, and 20-student discussion groups. A major course paper or project is required.

IDS 3181 Social Ethics. F, W, S.
Credits: 4
A critical introduction designed to develop one's capacity to think clearly and intelligently about ethical issues that arise in relation to such social institutions and professions as government, business, medicine, engineering, and law. Readings will be both theoretical and applied. Invited national speakers.

IDS 4159 The Fabulous Artificer. F.
Credits: 4
Varying images of engineers and scientists.

IDS 4162 Humanities and Business Administration. F.
Credits: 4
Inquiries into moral and ethical problems in business.

IDS 4163 Selling as a Way of Life. F.
Credits: 4
An examination of certain fundamental humanistic aspects of the business profession.

IDS 4182 Ethical Issues in Medicine. F, S.
Credits: 4
A critical introduction designed to develop the student's capacity to think clearly and intelligently about contemporary ethical issues in medicine; e.g., abortion, euthanasia, human experimentation, allocation of scarce resources and biomedical engineeering.

IDS 4183 Ethical Issues in Law. W.
Credits: 4
A critical introduction designed to develop the student's capacity to think clearly and intelligently about contemporary ethical issues in law; e.g., the legal enforcement of morality, the separation of law and morality, civil disobedience, bargaining, punishment and responsibility.

IDS 4905 Individual Study. F, W, S, SS.
Credits: 2 to 10
For select undergraduates undertaking indepth college approved courses of study. The project, as part of the student's planned program, must be approved by the Dean and carried out under the guidance of a faculty member.

IDS 4906 Interdisciplinary Thesis Research, F, W, S, SS.
Credits: 1 to 10. Coreq: Acceptance into Interdisciplinary Major Program and approval of Director.

IDS 4925 Interdisciplinary Workshop in Social Issues. F, W, S, SS.
Credits: 1 to 5
For each quarter, the content of this course will be recommended by the chairpersons of the Divisions of the College and approved by the Curriculum Committee. May be repeated for a maximum of 15 credits with change of topic.

IDS 4938 High Honors Seminar. F, W, S, SS.
Credits: 4; Open to selected candiates for any baccalaureate degree with High Honors in the College of Arts and Sciences. Prereq: Permission of the High Honors Committee.
Described in the Arts and Sciences section of this catalog. May be repeated for additional credit, up to a maximum of 12 credits.

IDS 4940 Practicum. F, W, S, SS.
Credits: 1 to 4
Permission of departmental representative or program required. Supervision experience in a local, county, state or federal agency. Supervision by a faculty member or delegated authority and a post-practicum written report is required.

Women's Studies

WST 3010 Interdisciplinary Perspectives on Women. F, S.
Credits: 4
An in-depth, topical approach to the study of women, with a concentration in three to four disciplines. This will serve as a required course for a Women's Studies Certificate. Independent, but supervised, study of possible option, after careful screening.

GRADUATE COURSE

Speech Education

SED 6943 Internship in College Teaching.
Credits: 3, or multiples of three, up to required total of 9.

††Grading is on S-U basis only.

Descriptions

LINGUISTICS

LIBERAL ARTS AND SCIENCES

INTERDISCIPLINARY HONORS AND INTEGRATIVE STUDIES

Interdisciplinary Honors

INSTRUCTIONAL STAFF 1979-80

Sciadini, F., Chairman.

Interdisciplinary Honors: Variable Topics.
Credits: 4 each
This course is designed for beginning honors students to improve their research skills.

Integrative Studies Program

The Integrative Studies Program is a certificate program which seeks to provide the models and practice necessary to locate and understand the central concerns at the heart of all university offerings. The program is open to any student of Sophomore or Junior standing. Students take a minimum of 17 credits over a two-year period, all of which may go toward the fulfillment of general education requirements. Students who finish the program will receive a certificate and may request that a special comprehensive recommendation be placed in their school dossiers. By focusing on themes which reflect relationships among disciplines, the Integrative Studies Program establishes a milieu in which students and teachers from diverse fields may learn to discover and articulate the root concerns of educated living in a complex society.

Focus Course. In the Fall and Winter quarters of each year, a 4-credit Focus Course open to all students is offered. The course, taught by three faculty members from different fields, introduces and develops the program's theme for that year. Any student who wishes to enter the program must begin with a Focus course. The Focus Course however, is also open to students not participating in the Integrative Studies Program.

Integrative Seminars. Students enter 2-credit Integrative seminars in the winter of their first year in the program. They take one Integrative Seminar each quarter for four quarters. Each seminar, led by two faculty members from different fields, is restricted to students in the program and builds upon their common work in the Focus Course. Students stay with the same faculty pair for the Winter and Spring of their first year, then shift to a second faculty pair for the Fall and Winter of their second year.

Field Problem. In the final quarter of the program, students take a 5-credit field problem. During this time, a group of 3-4 students labor at the solution of an immediate local or state problem which demands inventiveness, application of one's disciplinary background and the cooperative use of the knowledge of others. The committee directing the program will endeavor to arrange community internships or working experience with the appropriate agencies for all students involved in the Field Problems. The Field Problem affords students the opportunity to assess for themselves their progress toward independent integrative learning as they attempt to pull together the themes and approaches from the two years.

Structure.

Year 1 1978-79: Life In Other Natural Worlds

	Credits
Fall Focus: Worlds of Consciousness	4
Winter Focus: Disaster and Human Survival	4
Integrative Seminar: Hidden Forces	2
Integrative Seminar: World of Powerlessness	2
Spring: Integrative Seminar: Hidden Forces	2
Integrative Seminar: Worlds of Powerlessness	2

Year II 1979-80: Life In Artificial Worlds

	Credits
Fall Focus: Life in Utopias	4
Advanced Integrative Seminar	2
Advanced Integrative Seminar	2
Winter: Myths and Madness	4
Advanced Integrative Seminar	2
Advanced Integrative Seminar	2
Integrative Seminar	2
Integrative Seminar	2
Spring: Integrative Seminar	2
Integrative Seminar	2
Field Problem	5

IDS 2188 Integrative Studies. Special Topics.
Credits: 4; May be repeated with change of topic up to a maximum of 8 credits.
Interdisciplinary and integrative inquiry into broad topics central to a liberal education. Designed to acquaint students with persepectives on inter-relationships of areas of human understanding and provide them with tools for interpreting and synthesizing this knowledge. Topics announced annually as offered.

IDS 2301 Integrative Seminar. The World of Powerlessness.
Credits: 2
This course seeks to create a learning environment in which students may gain experience in integrating materials and viewpoints of the various disciplines, all subsumed under the issue of powerlessness. The course explores powerlessness as an internal state of consciousness and as an external state of the world. It also explores perceptions and expressions of powerlessness as they are reflected in literature, political rhetoric, and science.

IDS 2342 Integrative Studies Focus: Worlds of Consciousness — A Matter of Mind.
Credits: 4
The course will explore several "worlds of consciousness" in terms of an integrating concept, the mind-matter polarity. The course is structured so that students will be required to discover relationships among the various methodologies, concepts and patterns studies. A set of connected exercises and problems will encourage the student to increase his or her awareness of the different worlds of consciousness while working toward a unifying concept of his or her world of consciousness.

IDS 2343 Integrative Studies Focus: Disaster and Human Survival.
Credits: 4
The course explores the impact of disaster upon individuals and communities, strategies of coping and adaption at the individual, cultural and institutional levels, and the impact of disasters on western-world views.

IDS 3158 Integrative Studies For Pre-professional students: Architecture.
Credits: 5
This course offers general education in a format designed for the architecture student. Drawing on insights which emanate from classic works in the social sciences, humanities, and physical sciences, this course explores trends in man's relationship to nature, self, and society. It utilizes the metaphor of "cathedral" to introduce students to perspectives on the dilemmas of modern culture and to emphasize connections, relationships, and patterns of behavior which define and characterize contemporary life. Taught through the cooperative efforts of faculty from various disciplines, this course works to enrich the preprofessional student's intellectual horizons without sacrificing the student's professional interest and to establish a setting for putting one's chosen field into relation with other fields and specialties.

IDS 3302 Integrative Seminar. Hidden Forces.
Credits: 2
This course seeks to encourage integration by concentrating on the effect of hidden forces on the hierarchy found in the world, both in human and non-human environments. The seminar will deal with the criteria by which we recognize new forces — fundamental physical forces and social psychological forces.

LINGUISTICS

College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1979-80

Chu, C.C., Director; Burns, A. F.; Byrd, H. P.; Casagrande, J.; Conner, J.W.; de Beaugrande, R.; Der-Houssikian, H.; Dew, D.; Gellinek, C.J.; Hammond, R.M.; Harder, J.C.; Hardman, M.J.; Hollien, H.; Jensen, P.J.; Kotey, P.A.; McCarthy, K.M.; Markel, N.N.; Miller, D.G.; Scholes, R.J.; Scott, J.; Simon, T.W.; Su, S. Y-W.; Sullivan, W.J.; Thompson, R.M.

Linguistics is an interdepartmental program which offers an interdisciplinary major for undergraduate students and graduate degrees at the M.A. and Ph.D. levels, as described in the Graduate Catalog.

Students interested in careers in linguistics are advised to take the interdisciplinary major leading to a B.A . in linguistics (see below) or to complete an undergraduate major in one of the related disciplines. (For guidance on the related majors and essential elective courses in linguistics, contact the director, Dr. Chauncey Chu, 162 Grinter Hall, Tel. #392-0639, or the undergraduate coordinator.)

The interdisciplinary major leading to a B.A. in linguistics consists of a senior thesis (10 quarter hours) and 41-44 quarter hours of course work distributed as follows:

a. Required courses: LIN 3010, LIN 3611, LIN 3221; and, for the thesis, ten hours of IDS 4905/LIN 4905 (seminar).

b. Fixed-choice Requirements: Student selects at least one course from each category.

1. Structure: ENG 3551, FRE 4850, RUS 4700, SPN 4850, SWA 4850, LIN 3340.
2. Phonetics and Phonology: LIN 3220, FRE 4780, POR 4770, SPN 4780.
3. Behavior: LIN 3710, ANT 3610, LIN . 3700.

c. At least 20 quarter hours of approved electives.

A student who wishes to major in linguistics should consult the Undergraduate Coordinator, Dr. Paul Kotey, 107 GRI, Tel. #392-1024, before planning a schedule.

The Program in Linguistics administers the Engish Language Institute, which offers an intensive noncredit program in English for speakers of other languages, described elsewhere in the catalog.

Linguistics

LIN 2000 Language and Man. F, W, S, SS.
Credits: 4
The nature of human language, its origins, and its relationship to thinking and behavior.

LIN 2001 Language, The Individual and Society. F, W, S.
Credits: 4
How language structures the interaction of the individual with the environment.

LIN 3010 Introduction to Linguistics. F, W, S, SS.
Credits: 4
Survey of the main areas of the discipline, covering such topics as phonetics, phonology, syntax, morphology, semantics, dialects, linguistic change, linguistic diversity, writing, neurolinguistics and computational linguistics.

LIN 3221. The Sounds of Human Language. F.
Credits: 3
Study of sounds, their patterning, and function in languages of the world.

LIN 3340 Traditional Grammars. W, SS.
Credits: 4
Review and evaluation of the principles of traditional grammar as reflected in the works of the best grammarians. Illustrations in several languages. Comparison of varieties of grammatical models used to describe these languages. Evaluation of degree to which a grammar developed essentially for Latin describes other languages, particularly non-Indoeuropean languages. Practice and evaluation of different models of parsing.

LIN 3371 Non-Western Languages 1. F, W, S.
Credits: 4 to 5; Prereq: Permission of the department.
Basic language instruction in non-western language such as Arabic, Aymara, Ga, Shona, or Yoruba.

LIN 3611 Languages and Dialects. S.
Credits: 4
An introduction to the defining characteristics and varieties of human natural languages and dialects. Presentations include: a model of the nature of language, a survey of language families, the unity of languages and their diversity, areal linguistics, pidgins, creoles and international languages.

LIN 3700 Language and the Brain. S.
Credits: 3
How sentences are produced, understood, and remembered by the human language user. Linguistic studies of aphasia, mental retardation, and selected communicative skills such as reading will be considered.

LIN 4905 Individual Study in Linguistics. F, W, S, SS.
Credits: 1 to 4
Individual study for Linguistics majors.

Other Courses

Other LIN courses are listed elsewhere in this catalog.

GRADUATE COURSES

Linguistics

LIN 5025 Principles of Anthropological Linguistics.
Credits: 4

LIN 5715 Language Acquisition.
Credits: 4

LIN 611B History of Linguistics.
Credits: 4

LIN 612B Historical Linguistics.
Credits: 4

LIN 6129 Studies in Linguistic Change.
Credits: 4; max. of 12.

LIN 6136 Principles of Linguistics.
Credits: 4

LIN 6222 Introduction to Phonological Studies.
Credits: 4

LIN 6240 Phonological Theory.
Credits: 4

LIN 6241 Studies in Phonology.
Credits: 4; max. of 12.

LIN 6322 Introduction to Syntactic Studies.
Credits: 4

LIN 6377 Structure of a Specific Language.
Credits: 4

LIN 6380 Syntactic Theory.
Credits: 4

LIN 6381 Studies in Syntax and Semantics.
Credits: 4

LIN 6401 Contrastive Analysis.
Credits: 4

LIN 6415 TESL Observation and Analysis.
Credits: 2

LIN 6416 Materials and Techniques in TESL.
Credits: 4

LIN 6435 Gathering and Analysis of Linguistic Data.
Credits: 4

LIN 6436 Seminar in Linguistic Field Methods.
Credits: 5

LIN 6600 Sociolinguistics.
Credits: 4

LIN 6622 Bilingualism in America.
Credits: 4

LIN 6905 Individual Study.
Credits: 1 to 4

LIN 6910 Supervised Research.
Credits: 1 to 5††

LIN 6932 Rotating Topics.
Credits: 4

LIN 6940 Supervised Teaching.
Credits: 1 to 5††

LIN 6971 Master's Research.
Credits: 1 to 15††

LIN 7980 Doctoral Research.
Credits: 1 to 15††

MANAGEMENT
College of Business Administration

INSTRUCTIONAL STAFF 1979-80

Tosi, H., Chairman; Benson, H; Champion, J.; Cornelius, W.; Elnicki, R.A.; Feldman, J.M.; Fogler, H.R.; Fox, W.M.; Hass, J.; Horowitz, I.; James, J.; Jermier, J.; Koehler, G.; Majthay, A.; Oliver, C; Reitz, H. J.; Young, J.

Management

MAN 3010 Principles of Management. F, W, S, SS.
Credits: 4
Fundamentals of management underlying the solution of problems of organization and operation of business enterprises.

MAN 3151 Foundations of Organizational Behavior. F, W, S, SS.
Credits: 4
The individual, interpersonal and group relations, and intergroup and organizational problems in business. Open only to Business Administration students.

MAN 3301 Personnel Management. F, W, S.
Credits: 4
A comparison and evaluation of public and private personnel practices and techniques of recruiting, selecting, transferring, promoting, classifying, and training workers. Not open to management major.

MAN 4052 Management Philosophy and Practice. W, SS.
Credits: 4; Prereq: Management major or consent of instructor.
Contrasting philosophies of management. Leading management theories. Current issues in management practices.

MAN 4109 Applications Organizational Behavior. F, S.
Credits: 4; Prereq: MAN 3151.
An in-depth examination of current applications of organizational theory and research in modern organizations. May be repeated with change of content up to a maximum of 8 credits.

MAN 4201 Principles of Organization. F, W, S, SS.
Credits: 4; Prereq: MAN 3010.
The process of combining the factors of production through a functional structure to achieve enterprise objectives.

MAN 4310 Problems in Personnel Management. F, W, S, SS.
Credits: 4; Prereq: MAN 4201 or consent of instructor.
Personnel practices and interpersonal relationships involved in managing employees.

MAN 4410 Collective Bargaining, F, W, S.
Credits: 4; Prereq: MAN 4310 or consent of instructor.
The practice and techniques of collective bargaining with respect to the interrelationships of the individual worker, the union, the employer, and the general public.

MAN 4600 International Management. F, W, S.
Credits: 4; Prereq: MAN 3010.
The managerial problems of planning, organization and control in firms engaging in international business.

MAN 4720 Business Policies. F, S.
Credits: 4
Business policies correlating the functions of sales, procurement, personnel and finance in various industries. Open only to Seniors and graduate students.

MAN 4905 Individual Work in Management.
Credits: 1 to 5; Prereq: Senior standing and permission of Department. A written report is required.

GRADUATE COURSES

MAN 5205 Foundations of Management and Organizational Behavior.
Credits: 4

MAN 6051 Managerial Planning.
Credits: 4

MAN 6107 Motivation in Organizational Settings.
Credits: 4

MAN 6206 Organizational Behavior.
Credits: 4

MAN 6207 Theory of Managerial Organization and Control.
Credits: 4

MAN 6208 Theory and Skills of Organization Development.
Credits: 4

MAN 6321 Personnel Techniques and Administration.
Credits: 4

MAN 6421 Problems in Collective Bargaining.
Credits: 4

MAN 6511 Production Management Problems.
Credits: 5

MAN 6905 Individual Work in Management.
Credits: 1 to 5

MAN 6910 Supervised Research.
Credits: 1 to 5††

MAN 6931 Special Topics in Management.
Credits: 4

††Grading is on S-U basis only.

MARKETING

MAN 6933 Seminar in Management.
Credits: 4

MAN 6940 Supervised Teaching.
Credits: 1 to 5††

MAN 6971 Master's Research.
Credits: 1 to 15††

MAN 7925 Workshop in Management.
Credits: 3

MAN 7980 Doctoral Research.
Credits: 1 to 15††

Quantitative Methods in Business

QMB 4701 Managerial Operations Analysis I. F, W, S, SS.
Credits: 4; Prereq: QMB 3700.
Introductory survey of input-output analysis, linear programming, and the theory of games and their application in business decision making.

QMB 4702 Managerial Operations Analysis II. S, W.
Credits: 4; Prereq: MAN 6511 or QMB 4701 or consent of instructor.
Case studies of managerial applications of modern techniques of mathematical programming, statistical analysis, and economic analysis.

QMB 4703 Managerial Operations Analysis III. F, W, S, SS.
Credits: 4; Prereq: MGF 2202 or QMB 3700 or consent of instructor.
Concepts and technique of the simulation approach applied to complex managerial problems.

GRADUATE COURSES

QMB 6607 Decision Processes Under Uncertainty.
Credits: 5

QMB 6697 Optimization in Simulation Modeling.
Credits: 3

QMB 6808 Markov Decision Processes.
Credits: 4

QMB 6809 Decision Processes Under Conflict.
Credits: 3

QMB 6827 Linear Programming for Management Scientists.
Credits: 3

QMB 6857 Optimization in Static Managerial Models.
Credits: 4

QMB 6865 Optimization in Dynamic Managerial Decision Models.
Credits: 4

QMB 6877 Optimization in Discrete Managerial Decisions.
Credits: 3

MARKETING
College of Business Administration

INSTRUCTIONAL STAFF 1979-80

Cohen, J.B., Chairman; Ahtola, O.T.; Anderson, A.A.; Bechtel, G.G.; Biehal, G.J.; Chakravarti, D.; Faricy, J.H.; Hunt, J.M.; Popper, E.T.; Thompson, R.B.; Wilkie, W.L.

Courses numbered 3000 or higher are open only to students with Junior standing. Note, however, the specific prerequisites for certain courses.

For additional courses, please consult the Business Administration (BA) listing.

MAR 3023 Principles of Marketing. F, W, S, SS.
Credits: 4
Functions, institutions, and methods of marketing goods and services. Relates marketing to the total economic structure and emphasizes the importance of the consumer.

MAR 3203 Marketing Channels. F, W, S.
Credits: 4; Prereq: MAR 3023, ACC 2001.
Types, functions, and operating problems of wholesale and retail middlemen.

MAR 3503 Consumer Behavior. F, W, S, SS.
Credits: 4; Prereq: MAR 3023, STA 3023.
An analysis of the buying process focusing on the social, psychological, family and economic determinants of consumer choice.

MAR 4153 Retail Management. F, W, S, SS.
Credits: 4; Prereq: MAR 3023, STA 3023, ACC 2001.
A case course designed to train students in the analysis and solution of retail merchandising and operating problems.

MAR 4213 Physical Distribution Management. F, W, S.
Credits: 4; Prereq: MAR 3023, MAR 3203, STA 3023.
Nature, organization and administration of physical distribution systems.

MAR 4243 International Marketing. W, SS.
Credits: 4; Prereq: MAR 3023, STA 3023, ACC 2001.
The marketing aspects of successful foreign market penetration.

MAR 4303 Promotion Management. F, W, S, SS.
Credits: 4; Prereq: MAR 3503, ACC 2001.
The management of personal and non-personal communications in the marketing process. Includes the planning and integration of promotional programs with other marketing activities.

MAR 4403 Sales Management. F, W, S, SS.
Credits: 4; Prereq: MAR 3023, STA 3023, ACC 2001.
Principles, methods, and problems relating to the management of a sales force. Selection and training, organization, compensation and stimulation, and control.

MAR 4613 Marketing Research. F, W, S, SS.
Credits: 4; Prereq: MAR 3023, ECO 3411 and QMB 3700.
Research methods applied to marketing; introduction to sampling; collection, analysis, and reporting of data; survey of sales forecasting, market analysis, distribution cost analysis.

MAR 4614 Advanced Marketing Research. S.
Credits: 4; Prereq: MAR 4613.
Design and execution of marketing research studies with emphasis on primary data collection and analysis.

MAR 4713 Marketing Management. F, W, S, SS.
Credits: 4; Prereq: MAR 4613, ACC 2001 and Senior standing.
Marketing policies and methods, including product and brand development, channels of distribution, promotion and pricing.

MAR 4763 Credit and Collections. W.
Credits: 4; Prereq: MAR 3023.
Principles and practices in the administration of consumer and mercantile credit.

MAR 4905 Independent Study. F, W, S, SS.
Credits: 1 to 5; Prereq: Senior standing and previous work in the area selected for research. Admission is by consent of the department.

MAR 4933 Special Topics in Marketing. F, W, S.
Credits: 4; Prereq: Permission of Department.
Selected rotating topics in marketing management, research, and theory. May be repeated with a change of content up to a maximum of 8 credits.

GRADUATE COURSES

MAR 5055 Marketing Principles and Institutions.
Credits: 4

MAR 6246 International Marketing.
Credits: 5

MAR 6506 Consumer Behavior.
Credits: 5

MAR 6516 Public Policy Research and Marketing Practices.
Credits: 5

MAR 6606 Quantitative Analysis for Marketing Decisions.
Credits: 5

MAR 6616 Seminar in Marketing Research.
Credits: 5

MAR 6635 Research Issues in Marketing.
Credits: 5

MAR 6717 Seminar in Marketing Management.
Credits: 5

MAR 6806 Seminar in Marketing Theory.
Credits: 5

MAR 6905 Individual Work.
Credits: 1 to 5; Maximum of 10 credits.

MAR 6910 Supervised Research.
Credits: 1 to 5††

MAR 6933 Special Topics in Marketing.
Credits: 5

MAR 6940 Supervised Teaching.
Credits: 1 to 5††

MAR 6971 Master's Research.
Credits: 1 to 15††

MAR 7507 Perspectives in Consumer Behavior.
Credits: 5

MAR 7518 Consumer Information Processing and Decision Making.
Credits: 5

MAR 7622 Design of Marketing Research.
Credits: 5

MAR 7625 Advanced Statistical Analysis in Marketing Research.
Credits: 5

MAR 7627 Subjective Measurement in Marketing and Survey Research.
Credits: 5

MAR 7628 Multidimensional Scaling for Market and Societal Analysis.
Credits: 5

MAR 7639 Workshop in Marketing Research.
Credits: 4; May be repeated with a change of content up to a maximum of 12 credits.

MAR 7980 Doctoral Research.
Credits: 1 to 15††

MATERIALS SCIENCE AND ENGINEERING
COLLEGE OF ENGINEERING

INSTRUCTIONAL STAFF 1979-80

Verink, E.D., Jr., Chairman; Ambrose, J.R.; Bates, S.R.; Beatty, C.L.; Connell, R.G., Jr.; DeHoff, R.T.; Goldberg, E.P.; Gould, R.W.; Hartley, C.S.; Hench, L.L.; Holloway, P.H.; Hren, J.J.; Hummel, R.E.; Ogbuji, L.U.; Onoda, G.Y., Jr.; Pepinsky, R.; Reed-Hill, R.E.; Rhines, F.N.; Rummel, R.A. Whitney, E.D.

EMA 1020 Everyday Utilization of Metals. W, S.
Credits: 2
Metals application in a technological society, conservation of metals, in light of limited natural resources, properties of metals and alloys, metal working and fabrication techniques.

EMA 3010 Materials 1. F, W, S, SS.
Credits: 1 to 6; Prereq: CHM 2045C or CHM 2041C.
Elements of crystallography, plasticity, properties

††Grading is on S-U basis only.

of aggregates, structure of polymers, binary phase diagrams and physical properties of solids.

EMA 3012L Materials 1 Laboratory. F, W, S, SS.
Credits: 1; Prereq. or coreq: EMA 3010.
Experiments in crystallography, mechanical properties, phase diagrams, heat-treatment of steels. Designed to accompany or follow EMA 3010 units on structure and mechanical properties.

EMA 3040L Ceramic Science for the Potter. F, S.
Credits: 2
Introduction to scientific principles of forming, drying, and firing various types of pottery. Analyses of good and bad ceramic bodies and glazes using engineering methods to help improve the artist's technique.

EMA 3050 Introduction to Ceramic Materials. W.
Credits: 3; Prereq: EMA 3123.
Uses, structure, processing and properties of ceramic materials. Scientific principles are introduced through discussion of recently developed ceramics for high technology applications.

EMA 3066 Polymer Science and Engineering. S.
Credits: 3; Prereq: EMA 3050. Organic Chemistry desirable.
Introduction to preparation, molecular structure-property relationships, processing and applications of macromolecular materials.

EMA 3080 Phase Diagrams. F.
Credits: 3; Prereq: EMA 3010.
Construction and use of phase diagrams in materials science; descriptive introduction to the thermodynamics of phase diagrams.

EMA 3123 Metallurgical Engineering. F.
Credits: 3; Prereq: EMA 3010; Coreq: EMA 3080.
Preparation, structure, properties and applications of ferrous materials.

EMA 3413 Electronic Properties of Materials. W.
Credits: 3
Band model description of the electrical, magnetic and optical properties of solids.

EMA 3513 Analysis of the Structure of Materials. S.
Credits: 3; Prereq: EMA 3010.
Crystal structure and bonding in solids with an overview of the tools available for characterizing materials.

EMA 3622L Materials Processing Laboratory. F.
Credits: 1
Preparation, fabrication and processing of metal, ceramic and polymeric materials.

EMA 4004 Product Liability and Engineering Expertise. F.
Credits: 2
Product liability law, concept of defect failure analysis, safety standards, legal procedures and the expert witness.

EMA 4121 Materials 2. W.
Credits: 3; Prereq: EMA 3010
Physical metallurgy of ferrous and non-ferrous metals and their alloys. A correlation of properties, structural and mechanical history, thermal history, and service behavior of the various metals and their alloys.

EMA 4122 Materials 3. S.
Credits: 3: Prereq: EMA 4121.
Continuation of EMA 4121.

EMA 4124 Structure and Properties of Alloys. F.
Credits: 3; Prereq: EMA 3010.
Quantitative metallography, topology of structures, cast structures, diffusion in solids.

EMA 4125 Microstructural Transformations in Materials. S.
Credits: 4; Prereq: EMA 4314.
Paths, energetics, mechanisms and kinetics of processes that alter the microstructure of materials.

EMA 4144 Physical Characteristics of Ceramics. F.
Credits: 3: Prereq: EMA 4643L or consent of instructor.
Structure of complex ceramic compounds and glasses. Influence of structural imperfections and stoichiometry on physical characteristics, surface and interfacial phenomena, diffusion and phase transformations in ceramic systems.

EMA 4145 Ceramic Microstructures. W.
Credits: 3; Prereq: EMA 4643L or consent of instructor.
Influence of ceramic microstructure on processing. Chemical bonds, surface phenomena, forming energetics, drying and firing kinetics. Diffusion, nucleation, crystal growth, solid-solid and solid-liquid reactions.

EMA 4223 Mechanical Behavior of Materials. W.
Credits: 4; Prereq: EGM 3520.
Plastic deformation and fracture of metals and alloys, ceramics and polymers.

EMA 4224 Mechanical Metallurgy 2. S.
Credits: 3; Prereq: EMA 4223.
Continuation of EMA 4223.

EMA 4314 Energetics and Kinetics in Materials Science. F.
Credits: 4; Prereq: EML 3100 or CHM 4411.
Foundations of energetics and kinetic theory with applications to processes in materials science.

EMA 4324 Stability of Materials. W.
Credits: 4; Prereq: EML 3100 or CHM 4411 or permission of instructor.
Mechanisms, energetics and kinetics of corrosion and degradation of engineering materials. Economic solutions to degradation problems based upon design and materials selection.

EMA 4444 Electronic Ceramics. S.
Credits: 3; Prereq: EMA 4643L or consent of instructor.
An introduction to the electronic, optical, thermal and magnetic properties of non-metallic materials. Special emphasis on important ceramic systems and effect of processing on properties.

EMA 4522L Metallurgy Laboratory 2 — Metallography and Photography. W.
Credits: 1
Laboratory techniques in physical metallurgy with practical emphasis on the surface preparation and photographic recording of the structure of materials. Includes heat treatment, quenching, mechanical forming and mechanical testing of metals and alloys.

EMA 4524L X-ray and Electron Metallography. F.
Credits: 4
X-ray and electron scattering and diffraction with applications to problems in materials analysis. Laboratory included.

EMA 4623 Process Metallurgy 1. W.
Credits: 3; Prereq: PHY 2042 and CHM 2047C or CHM 2043C.
Principles of pyrometallurgy, hydrometallurgy and electrometallurgy with applications to specific ferrous and non-ferrous metals.

EMA 4624 Process Metallurgy 2. S.
Credits: 3; Prereq: EMA 4623.
Unit operations of process metallurgy including: comminution, classification, flotation, stoichiometry, heat balances, fuels and heat utilization.

EMA 4632L Metallurgy Laboratory 3 — Welding, Brazing, Soldering. S.
Credits: 1
Laboratory techniques involved in various welding and cutting processes, soft soldering, brazing and braze welding. Includes testing and inspection of welds.

EMA 4634L Metal Forming. F.
Credits: 4
Application of theories of elastic and plastic behavior and fracture to metal forming processes, forging, rolling, extrusion, wire drawing, sheet metal forming. Laboratory included.

EMA 4643L Ceramic Glazes. W.
Credits: 4; Prereq: EMA 3040L.
Glaze calculations and formulations using programmed instruction assuming little math background. Laboratory to create new individualized glazes.

EMA 4645 Processing of Ceramic Materials. F.
Credits: 3
Introduction to the technology and science of processing ceramic materials, including traditional clay-based ceramics, modern technical ceramics, and glasses. Topics include the nature of fine particles, forming methods, and consolidation by heat.

EMA 4712C Failure Analysis of Materials. W.
Credits: 4; Prereq: EMA 4121.
Basic principles of metal failure and failure analysis including fractography, ductile and brittle fracture, fatigue and wear. Engineering/legal problems of failure.

EMA 4714 Materials Selection and Failure Analysis. S.
Credits: 4
Philosophy and practice of engineering selection of materials. Case studies in product liability and failure analysis.

EMA 4905 Individual Work in Materials Science and Engineering. F, W, S, SS.
Credits: 1 to 6; Maximum of 12 credits.
Selected problems or projects in the student's major field of engineering study. May be repeated for credit with change of content.

EMA 4913 Research in Materials Science and Engineering 1. F, W, S, SS.
Credits: 3
Short research problems in materials science and engineering, usually including a final thesis.

EMA 4914 Research in Materials Science and Engineering 2. F, W, S, SS.
Credits: 3; Prereq: EMA 4913.
Continuation of EMA 4913.

EMA 4935 Special Topics in Materials Science and Engineering. F, W, S, SS.
Credits: 1 to 4; Maximum of 12 credits.
Laboratory, lectures, or conferences covering specially selected topics in materials science and engineering. May be repeated with change of content.

EMA 4940 Field Trips in Materials Science. SS.
Credits: 1††
Field trips to materials preparation and processing industries in the southeastern states.

EMA 4949 Co-op Work Experience. F, W, S, SS.
Credits: 1††; Prereq: 4 EG classification; one term industrial employment, including extra work according to a pre-approved outline.
Practical engineering work under industrial supervision, as set forth in the College of Engineering Regulations.

GRADUATE COURSES

CHM 5272 The Organic Chemistry of Polymers. F.
Credits: 3

CHM 5511 Physics and Physical Chemistry of Polymers. S.
Credits: 3

EMA 6106 Advanced Phase Diagrams 1.
Credits: 3

EMA 6107 Advanced Phase Diagrams 2.
Credits: 3

††Grading is on S-U basis only.

EMA 6110 Electron Theory of Solids for Materials Scientists 1.
Credits: 4

EMA 6111 Electron Theory of Solids for Materials Scientists 2.
Credits: 4

EMA 6112 Electron Theory of Solids for Materials Scientists 3.
Credits: 4

EMA 6126 Advanced Physical Metallurgy 1.
Credits: 4

EMA 6127 Advanced Physical Metallurgy 2.
Credits: 4

EMA 6128 Advanced Physical Metallurgy 3.
Credits: 4

EMA 6136 Diffusion in Solids.
Credits: 3

EMA 6137 Radiation Damage in Solids.
Credits: 3

EMA 6146 Atomic Processes in Crystalline Ceramics.
Credits: 4

EMA 6147 Structure and Properties of Glasses.
Credits: 4

EMA 6226 Advanced Mechanical Metallurgy 1.
Credits: 4

EMA 6227 Advanced Mechanical Metallurgy 2.
Credits: 4

EMA 6316 Metallurgical Thermodynamics.
Credits: 3

EMA 6326 Advanced Topics in Corrosion.
Credits: 3

EMA 6436 Optical Instruments in Materials Research.
Credits: 3

EMA 6437 Growth, Structure and Properties of Thin Films.
Credits: 3

EMA 6446 Electronic Processes in Crystalline Ceramics.
Credits: 4

EMA 6448 Ceramic Processing.
Credits: 4

EMA 6507C Scanning Electron Microscopy and Electron Probe Microanalysis.
Credits: 4

EMA 6508 Quantitative Microscopy.
Credits: 3

EMA 6514L X-ray Spectrochemical Analysis.
Credits: 4

EMA 6516 Advanced X-ray Diffraction 1.
Credits: 4

EMA 6517 Advanced X-Ray Diffraction 2.
Credits: 3

EMA 6518L Transmission Electron Microscopy.
Credits: 4

EMA 6519L Specialized Research Techniques in Materials Science.
Credits: 1 to 3; Maximum of 15 credits.

EMA 6580 Science of Biomaterials 1.
Credits: 3

EMA 6581 Science of Biomaterials 2.
Credits: 3

EMA 6905 Individual Work in Materials Science and Engineering.
Credits: 1 to 6; May be repeated with change of content up to a maximum of 12 credits.

††Grading is on S-U basis only.

EMA 6910 Supervised Research.
Credits: 1 to 5††

EMA 6936 Seminar in Materials Science and Engineering.
Credits: 1††

EMA 6937 Seminar in Metallurgy and Ceramic Science.
Credits: 1 to 2

EMA 6938 Special Topics in Materials Science and Engineering.
Credits: 1 to 6; May be repeated with change of content up to a maximum of 9 credits.

EMA 6940 Supervised Teaching.
Credits: 1 to 5††

EMA 6971 Master's Research.
Credits: 1 to 15††

EMA 7008 Product Liability: Effective Use of Engineering Experts.
Credits: 3

EMA 7980 Doctoral Research.
Credits: 1 to 15††

MATHEMATICS
College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1979-1980

Bednarek, A.R., Chairman; Pop-Stojanovic, Z.R., Assoc. Chairman; Bacon, P.; Baird, B.B.; Blevins, D.K.; Block, L.; Bowman, T.T.; Brechner, B.L.; Brooks, J.K.; Burnap, C.A.; Cenzer, D.A.; Chen, S.; Crummer, A.A.; Dinculeanu, N.; Drake, D.A.; Edwards, B.H.; Farmer, K.B.; Hale, M.P.; Kallman, R.R.; Kalman, R.E.; Keesling, J.E.; Larson, J.A.; Long, R.L.; Luehr, C.P.; Martinez, J.; McKenna, P.J.; Moore, T.O.; Nelson, C.W.; Popov, V.M.; Ritter, G.A.; Ritter, G.X.; Row, A.W.; Saxon, S.A.; Scott, M.W.; Sigmon, K.N.; Teply, M.L.; Ulam, S.M.; Varma, A.K.; Walsh, T.; White, N.L.; Willard, D.; Wilson, D.C.; Yoh, R.; Zarantonello, S.E.

I. General Information

Students whose mathematical background is weak should take MAC 1132. Others may take one of the calculus courses as follows: Architectural students MAC 2223, Business Administration students MAC 3311, Engineering and Science students MAC 3311, Mathematics and Education students MAC 3311, Mathematics majors MAC 3472. Superior students may substitute MAC 3472 for MAC 3311. Students who have had calculus in high school should consult with one of the department advisers.

II. Program for Mathematics Majors

Courses	Credits
1. Calculus MAC 3472 3-4 (or MAC 3311-2-3)	15
2. Algebra MAS 4103-4, MAS 4311-2	14
3. Analysis MAA 4211-2-3	9
4. Electives from list below	13
Total	51

Electives: MAC 3314, MAP 3302, MHF 3202, MAS 3203, MAS 3113, MAS 411S, MAP 4413, MAP 4414, MAP 430S, MAS 4124, MAD 4401, MAS 4156, MAA 4402, MAP 4423, MAP 4341, MAS 410S, MAS 4313, MAD 4504, MTG 4233, MTG 4234.

III. Baccalaureate Honors Program

To earn Baccalaureate Honors a student shall:

A. Take the following courses:

Courses	Credits
1. Calculus MAC 3472-3-4 (or MAC 3311-2-2)	15
2. Algebra MAS 4103-4, MAS 4311-2	14
3. Analysis MAA 4211-2-3 (or MAA 4226-7-8 or MAA 4102-3-4)	9
4. Set Theory MHF 4102, Topology MTG 4302-3	12
5. Electives from list given in II	10
Total	60

B. Earn at the University of Florida at least 20 credits in mathematics courses of 4000 level or above including MHF 4102, MTG 4302-3.

C. Have a grade point average of 3.3 or higher in all mathematics courses of 4000 level or above taken at the University of Florida.

D. Have a grade point average of 3.3 or higher in upper division work.

IV. Mathematics Education Program

The Mathematics Education Program is for students wishing to receive a degree in Mathematics through the College of Liberal Arts and Sciences while simultaneously getting accreditation for teaching secondary mathematics. The minimum mathematics requirements are:

	Credit Hours
1. Calculus MAC 3311-2-3 (or MAC 3472-3-4)	15
2. Algebra MAS 3301-2 (or MAS 4311-2)	6
3. Geometry MTG 3212-3	6
4. Electives, chosen from below	13
Total	40

Electives: MAS 3203, MTG 3214, MAS 3113, MAS 4313, MAE 4830, MAE 4831, MAE 4870, MHF 4404, MAA 4211, MAA 4212, MAA 4213, STA 3020 or STA 4321, STA 4404, EIN 3114 or COP 3110, COC 3110, or other mathematics courses chosen with the advice of a counselor.

In addition, the Mathematics Education major must take the following Education courses (though only 24 hours of this counts toward minimum required hours for graduation):

	Credit Hours
EDF 3135	5
EDF 3514 or EDF 3604 or EDF 4542 or EDF 4710	5
ESE 4011	5
ESE 4210	4
MAE 4330	5
ESE 4943	16

NOTE: A student wishing to change from one program to another should consult a mathematics adviser as to which courses in the various programs are interchangeable. However no credit toward the major will be given for both MAS 4311 and MAS 3301 or for both MAS 4312 and MAS 3302. All courses are listed according to the alphabetical order of their prefixes and numerical order within them.

Mathematics—Analysis

MAA 4102 Introduction to Advanced Calculus 1. F, W.
Credits: 3
Foundations of calculus of functions of real variables, differentiation, Reimann-Stielties integration, multiple and line integrals, infinite series.

MAA 4103 Introduction to Advanced Calculus 2. W, S.
Credits: 3
A continuation of MAA 4102.

MAA 4104 Introduction to Advanced Calculus 3. S, SS.
Credits: 3
A continuation of MAA 4103.

MAA 4211 Intermediate Calculus 1. F, W.
Credits: 3; Prereq: MAC 3313 or MAC 3474.
Review of limits, differentiation and integration, partial differentiation, multiple integration, series, and complex numbers.

MAA 4212 Intermediate Calculus 2. W, S.
Credits: 3; Prereq: MAA 4211.
A continuation of MAA 4211.

MAA 4213 Intermediate Calculus 3. S, SS.
Credits: 3; Prereq: MAA 4212.
A continuation of MAA 4212.

MAA 4226 Introduction to Modern Analysis 1. F.
Credits: 3
Topology of metric spaces, numerical sequences and series, continuity, differentiation, the

Riemann-Stielties integral, sequences and series of functions, the Stone-Weierstrass theorem, functions of several variables, Stokes' theorem, the Lebesque theory.

MAA 4227 Introduction to Modern Analysis 2. W.
Credits: 3
A continuation of MAA 4226.

MAA 4228 Introduction to Modern Analysis 3. S.
Credits: 3
A continuation of MAA 4227.

MAA 4402 Elements of Complex Variables for Engineers and Physical Scientists. F, W, S, SS.
Credits: 4; Prereq: MAP 3302.
Introduction to the theory of functions of a complex variable.

Mathematics: Calculus and Precalculus

MAC 1104 Precalculus Algebra. F, W, S, SS.
Credits: 4
Elementary algebra, functions, and coordinate systems. Admission limited to students in special services programs.

MAC 1132 Algebra and Trigonometry. F, W, S, SS.
Credits: 5
Elementary Algebra, Functions and Coordinate Geometry, and Trigonometry. Does not count as major credit in mathematics. This course is especially important for students planning to take calculus and who do not have the necessary algebra and trigonometry background.

MAC 1132L Programmed Algebra and Trigonometry. F, W, S, SS.
Credits: 3
A programmed continuation of MAT 1033. Topics include algebra, coordinate geometry, and trigonometry. MAT 1033 and MAC 1132L together are equivalent to MAC 1132. Materials are available from Teaching Center of the Office of Instructional Resources, in 2223 GPA.

MAC 2144 Trigonometry and Analytic Geometry. F, W, S, SS.
Credits: 3; Prereq: MAC 1104.
Trigonometry functions, triangles, trigonometric identities; plane analytic geometry, lines and circles, functions and limits. Admission limited to students in special services programs.

MAC 2223 Analytic Geometry and Calculus for Architecture. F, W, S, SS.
Credits: 5
A geometric and heuristic approach to plane analytic geometry and calculus. Includes both differentiation and integration of simple algebraic and trigonometric functions including the finding of movements and centroids and the interpretation of derivatives and integrals.

MAC 3224 Advanced Calculus for Architecture. F, S.
Credits: 4; Prereq: MAC 2223 or equivalent.
To be scheduled by students choosing to enter any of the graduate Architectural Technology Programs. A continuation of MAC 2223 with further studies in partial differentiation, multiple integration, some elements of vector analysis, matrix theory and determinants, some elements of differential equations.

MAC 3311. Analytic Geometry and Calculus 1. F, W, S, SS.
Credits: 5
Introduction to analytic geometry, limits, derivatives of algebraic functions, differentials, and applications.

MAC 3312 Analytic Geometry and Calculus 2. F, W, S, SS.
Credits: 5; Prereq: MAC 3311.
The definite integral, the indefinite integral and antiderivative, the fundamental theorem of integral calculus, transcental functions, their derivative and integrals, and applications.

MAC 3313 Analytic Geometry and Calculus 3. F, W, S, SS.
Credits: 5; Prereq: MAC 3312.
Methods of integration, infinite series, and applications.

MAC 3314 Analytic Geometry and Calculus 4. F, W, S, SS.
Credits: 5; Prereq: MAC 3313.
Solid analytic geometry, vectors, partial derivatives, multiple integrals.

MAC 3411 Differential Calculus. F, W, S, SS.
Credits: 4; Prereq: MAC 2144.
Derivatives, differentiation formulas, curve sketching; applications of derivatives. Admission limited to students in special services programs.

MAC 3472 Introduction to Real Analysis 1. F, W.
Credits: 5
A first course in calculus for students who particularly enjoy the mathematics and have a sound background in high school mathematics; MAC 3472-3-4 includes the topics differentiation and integration of functions of one or more variables, convergence of sequences and series, continuity, uniform continuity and uniform convergence.

MAC 3473 Introduction to Real Analysis 2. W, S.
Credits: 5; Prereq: MAC 3472.

MAC 3474 Introduction to Real Analysis 3. S, SS.
Credits: 5; Prereq: MAC 3473.

Mathematics—Discrete

MAD 3104 Discrete Structures. F, W, S, SS.
Credits: 4
Set algebra, functions, and relations, Induction and recursion Propositional and predicate logic. Topics from modern algebra. Graphs, algorithms and flow diagrams. Applications to CIS.

MAD 4203 Combinatorics 1. W.
Credits: 3
Permutations and Combinations, Binomial Coefficients, Inclusion-Exclusion, Recurrence Relations, Fibonacci Sequences, Generating Functions, Graph-coloring Problems, Chromatic Polynomials, Arrangements.

MAD 4204 Combinatorics 2. S.
Credits: 3; (Cont. of MAD 4203).
Permutations and Combinations. Binomial Coefficients, Inclusion-Exclusion, Recurrence Relations, Fibonacci Sequences, Generating Functions, Graph-coloring Problems, Chromatic Polynomials, Arrangements.

MAD 4401 Numerical Methods in Analysis. W, SS.
Credits: 3; Prereq: MAP 3302.
Numerical integration and differentiation, differential equations, partial differential equations, harmonic analysis.

MAD 4504 Computability and Unsolvability. S.
Credits: 4; Prereq: Junior or Senior standing.
Computability, algorithms, turing machines, recursive functions, decidability, and unsolvability. A course primarily for students of mathematics, philosophy and Computer and Information Sciences.

Mathematics Education

MAE 3810 Mathematics for Elementary School Teachers 1. F, S, W, SS.
Credits: 3
A study of the structure of whole numbers and newer mathematical topics included in modern elementary school mathematics programs.

MAE 3811 Mathematics for Elementary School Teachers 2. F, W, S, SS.
Credits: 3; Prereq: MAE 3810.
Properties and operations of rational numbers, ratio, proportion, per cent, and an introduction to real numbers.

MAE 3812 Mathematics for Elementary School Teachers 3. W, S, SS.
Credits: 3; Prereq: MAE 3811 or by permission of the instructor.
Topics include an introduction to equations, inequalities, and geometry as these topics are related to modern elementary mathematics programs, and the nature of mathematical systems.

MAE 3822 Mathematics for Junior High School Mathematics Teachers 1. SS.
Credits: 3
An analysis of extension of concepts included in modern junior high school mathematics programs such as state adopted texts or SMSG material 7, 8, and 9. Topics include sets, properties and operations of the real numbers, numeration systems and bases, additional work in ratios and proportion, percentage, aspects of measurement and geometry, and number congruences.

MAE 3823 Mathematics for Junior High School Mathematics Teachers 2. SS.
Credits: 3; Prereq: MAE 3822
A continuation of MAE 3822.

MAE 3836 Calculus for Teachers 1.
Credits: 3; Offered by extension only. Prereq: A basic course in calculus or permission of the instructor.
Designed as an off-campus and in-service course. Limits; continuity; differentiation of algebraic, trigonometric, exponential, and logarithmic functions; derivatives, antiderivatives, curve tracing, and series.

MAE 3837 Calculus for Teachers 2.
Credits: 3; Offered by extension only. Prereq: MAE 3836.
A continuation of MAE 3836.

MAE 3838 Calculus for Teachers 3.
Credits: 3; Offered by extension only. Prereq: MAE 3837.
A continuation of MAE 3837.

MAE 4830 Mathematics for Senior High School Teachers 1. F, SS.
Credits: 4; Prereq: 9 hours of college mathematics or permission of instructor.
Logic; nature of proof; the ordered field of real numbers; sequences, series and the limit concept; relations and functions; complex numbers.

MAE 4831 Mathematics for Senior High school Teachers 2. W, SS.
Credits: 4; Prereq: MAE 4830 or permission of instructor.
Algebra or vectors; limits, continuity and derivations; exponential, logarithmic and circular functions; probability.

MAE 4870 Topology for Senior High School Teachers. W.
Credits: 4
Introductory survey course covering the following topics: Sets and functions, metric spaces, topological spaces, compactness, connectedness, and separation properties. Emphasis is placed on metric topologies.

Mathematics—Applied

MAP 3302 Elementary Differential Equations. F, W, S, SS.
Credits: 3, Prereq: MAC 3313.
First order differential equations, theory of linear differential equations, solution of linear equations with constant coefficients, the Laplace transform, solution of equations by the Laplace transform.

MAP 4305 Introduction to Differential Equations for Engineers and Physical Scientists. F, W, S, SS.
Credits: 3; Prereq: MAP 3302.
Series solutions of differential equations, Sturm-Liouville Systems.

MAP 4316 Differential Equations I. W.
Credits: 3, Prereq MAA 5228 or MAA 4213 and some linear algebra.
Existence theorems for ordinary differential equations, initial and boundary value problems.

MAP 4317 Differential Equations 2. S.
Credits: 3; Prereq: MAP 4316.
Part of sequence MAP 4316-7.

MAP 4341 Elements of Partial Differential Equations. F, S, SS.
Credits: 3, Prereq: MAP 3302. Recommended MAP 4305.
Origin and solution of partial differential equations by various methods including Lagrange linear equations, elementary partial equations of mathematical physics.

MAP 4413 Fourier Series and Transforms 1. W.
Credits: 4, Prereq: MAP 3302; Rec: MAP 4305.
A two quarter introduction to Fourier series, Orthogonal systems in general. Convergence of Fourier series and various expansions. Laplace, Fourier and Z transforms and their mutual relationship, convolutions. Operational calculus, computational methods including the fast Fourier transform, second order stationary processes, their auo-correlation functions, and problems of interpolation, extrapolation, filtering and smoothing for second order stationary processes.

MAP 4414 Fourier Series and Transforms 2. S.
Credits. 4, Prereq: MAP 4413
A continuation of MAP 4413.

MAP 4423 Elements of Operational Calculus. W, SS.
Credits: 3
Continuation of the study of analytic functions, Fourier and Laplace transforms.

MAP 4480 Introductory Mathematics for Biological Sciences. F.
Credits: 3; Prereq: MAC 3311
Difference equations, differential equations, probability theory, matrix theory, and Markov chains with applications, in the biological sciences. Among the applications covered are population dynamics, epidemiology, and genetics.

MAP 4481 Introductory Mathematics for Biological Sciences. W.
Credits: 3; Prereq; MAP 4480.
A continuation of MAP 4480.

MAP 4482 Introductory Mathematics for Biological Sciences. S.
Credits: 3; Prereq; MAP 4481
A continuation of MAP 4481.

Mathematics: Algebraic Structures

MAS 3113 Matrices and Vector Spaces. F, W, S, SS.
Credits: 4; Prereq: MAC 3311 or MAC 2223 or MAE 4830.
Linear equations and matrices; elementary determinants. Linear geometry of Euclidean space; vector spaces and linear transformations.

MAS 3114 Computational Linear Algebra. F, W.
Credits: 4; Prereq: MAC 3312 and knowledge of a programming language.
Linear equations, matrices and determinants. Vector spaces and linear transformations. Inner products and eigenvalues. This course emphasizes computational aspects of linear algebra.

MAS 3203 Introduction to Number Theory. S, SS.
Credits: 3; Prereq: 9 hours of mathematics.
Divisibility, primes and composites, divisors, multiples, Euclid's algorithm, Diophantine equations, modular arithmetic, and simple continued fractions.

MAS 3301 Introduction to Abstract Algebra. F, S, SS.
Credits: 3; Prereq: MAC 3311 or MAC 2223 or MAE 4830.
Properties of the natural numbers, integers, and rational numbers, Groups, semigroups, rings, integral domains, fields, isomorphisms, homomorphisms, and equivalence classes.

MAS 3302 Abstract Algebra. F, W, SS.
Credits: 3; Prereq: MAS 3301.
A continuation of MAS 3301.

MAS 4103 Linear Algebra 1. F, W.
Credits: 4; Prereq: MAC 3312.
Linear equations, matrices, vector spaces, linear transformations, determinants, eigenvalues, inner product spaces, spectral theorem.

MAS 4104 Linear Algebra 2. W, S.
Credits: 4
A continuation of MAS 4103.

MAS 4105 Linear Algebra 3. S.
Credits: 4
Advanced undergraduate topics in linear algebra rotated from among the following: Canonical forms, geometry of inner products and quadratic forms, linear groups, multilinear algebra.

MAS 4115 Advanced Matrix Theory.
Credits: 4; Prereq: MAS 4103-4 or a solid foundation in basic matrix theory, or consent of the instructor.
Matrix theory at an advanced level. Generalized eigenvalues, simultaneous diagonalization, generalized and conditional inverses, trace theorems, inequalities, properties of special matrices, perturbation theory, selected topics.

MAS 4124 Numerical Methods in Linear Algebra. F, S.
Credits: 3; Prereq: MAS 3113, MAS 3114, or MAS 4103.
Solution of linear equations, matrix methods, matrix eigenvalue problems. Introduction to computer methods.

MAS 4156 Introduction to Vector Analysis. F, W, S.
Credits: 3; Prereq: MAC 3314. Vector analysis including the integral theorems; applications.

MAS 4311 Survery of Modern Algebra 1. F, W, S.
Credits: 3; Prereq: MAC 3313, MAC 2233, MAC 3224.
Sets and mappings, the integers, rings and domains, fields, groups and subgroups, homomorphisms and isomorphisms.

MAS 4312 Survey of Modern Algebra 2. W, S, SS.
Credits: 3; Prereq: MAS 4311.
A continuation of MAS 4311.

MAS 4313 Survey of Modern Algebra 3. S, SS.
Credits: 3; Prereq: MAS 4312.
Variable topics based upon material in MAS 4311 and 4312.

MAS 4321 Modern Applied Algebra 1. F.
Credits: 4; Prereq: MAC 3313.
Sets and relations, graphs, Boolean algebra, with applicative to switching circuits and computer design.

MAS 4322 Modern Applied Algebra 2. W.
Credits: 4; Prereq: MAS 4321 or consent of instructor.
Groups and rings with applications to groups.

Mathematics

MAT 1033 Basic Algebra. F, W, S, SS.
Credits: 2
A programmed course for students with deficiencies in algebra. Topics include real numbers, solving linear and quadratic equations, radicals, exponents, graphing, and logarithms. Information and placement materials are available from the Department office and Teaching Center of the Office of Instructional Resources, in 2223 GPA.

MAT 4905 Individual Work. F, W, S, SS.
Credits: 1 to 4; Maximum of 15 credits: Prereq: MAC 3313 and permission of Chairman of Department.
For special topics not obtainable in the regular course offerings. May be repeated for credit.

MAT 4930 Special Topics in Mathematics. F, W, S, SS.
Credits: 1 to 5; Prereq: Permission of the Chairman of the Department's Undergraduate Advisory Panel who should be consulted well in advance of registration.
May be repeated for credit. Maximum of 24 credits.

Mathematics: General and Finite

MGF 1113 Fundamental Mathematics. F, W, S, SS.
Credits: 4
A general education course which includes the study of the characteristics and the development of particular mathematical systems as well as the fundamental concepts underlying mathematical systems in general.

MGF 2202 Basic Mathematics for the Social Sciences. F, S, SS.
Credits: 4
Introductory course in the following topics; compound statements, set and subsets, partitions and counting, probability theory, vectors and matrices, and linear programming.

Mathematics: History and Foundations

MHF 3202 Sets and Logic. F, W, S, SS.
Credits: 4
Examples of sets, operations on sets, set algebra, Venn diagrams, truth tables, tautologies, applications to mathematical arguments and mathematical induction.

MHF 4102 Elements of Set Theory. F.
Credits: 4; Required for Baccalaureate Honors.
The basic axioms and concepts of Set Theory.

MHF 4404 History of Mathematics. F, SS.
Credits: 3; Prereq: 12 hours of mathematics or permission of instructor.
A survey of the historical development of precalculus mathematics.

Mathematics: Topology and Geometry

MTG 3212 Geometry 1. F, W, SS.
Credits: 3; Prereq: 6 hours of mathematics.
A systematic study of the axiomatic structure of Euclidean geometry, including a comparison of the metric (Birkhoff) and synthetic (Hilbert) developments of absolute geometry; paralleism, similarity, area, lines and planes inspace, solid mensuration.

MTG 3213 Geometry 2. W, S.
Credits: 3; Prereq: MTG 3212 or permission of the instructor.
A continuation of MTG 3212.

MTG 3214 Geometry 3. S.
Credits: 3; Prereq: MTG 3213 or permission of the instructor.
A continuation of MTG 3213. This course also includes an introduction to Non-Euclidean geometry.

MTG 4233 Projective Planes and Related Topics I. F.
Credits: 4; Prereq: MAS 3113 or MAS 4103.
Review of linear algebra; projective and affine planes: coordinization theorems, subplanes, ovals, collineations; Latin squares, nets; block designs.

MTG 4234 Projective Planes and Related Topics II. W.
Credits: 4; Prereq: MTG 4233.
Continuation of MTG 4233.

MTG 4302 Elements of Topology 1. W, S.
Credits: 4; Required for Baccalaureate Honors.
Continuation of MHF 4102. The basic concept of general topology.

MTG 4303 Elements of Topology 2. S, SS.
Credits: 4; Required for Baccalaureate Honors. Continuation of MTG 4302.

GRADUATE COURSES

Mathematics—Analysis

MAA 5102 Advanced Calculus 1. F, W.
Credits: 3; Prereq: MAC 3313.

MAA 5103 Advanced Calculus 2. W, S.
Credits: 3; Prereq: MAA 5102.

MAA 5104 Advanced Calculus 3. S, SS.
Credits: 3; Prereq: MAA 5103.

MAA 5226 Modern Analysis 1. F.
Credits: 3; Prereq: MAC 3313.

MAA 5227 Modern Analysis 2. W.
Credits: 3; Prereq: MAA 5226.

MAA 5228 Modern Analysis 3. S.
Credits: 3; Prereq: MAA 5227.

MAA 5402 Introduction to Complex Variables for Engineers and Physical Scientists. F, W, S, SS.
Credits: 4; Prereq: MAP 3302.

MAA 5506 Introduction to Functional Analysis 1. F.
Credits: 4; Prereq: One quarter of linear algebra and some analysis or consent of the instructor.

MAA 5507 Introduction to Functional Analysis 2. W.
Credits: 4; Prereq: MAA 5506.

MAA 6236 Mathematical Analysis for Statisticians 1.
Credits: 4

MAA 6237 Mathematical Analysis for Statisticians 2.
Credits: 4

MAA 6238 Mathematical Analysis for Statisticians 3.
Credits: 4

MAA 6406 Complex Analysis 1.
Credits: 3

MAA 6407 Complex Analysis 2.
Credits: 3

MAA 6408 Complex Analysis 3.
Credits: 3

MAA 6616 General Theory of Measure and Integration 1.
Credits: 3

MAA 6617 General Theory of Measure and Integration 2.
Credits: 3

MAA 6618 General Theory of Measure and Integration 3.
Credits: 3

MAA 6626 Advanced Topics in Integration 1.
Credits: 3

MAA 6627 Advanced Topics in Integration 2.
Credits: 3

MAA 6628 Advanced Topics in Integration 3.
Credits: 3

MAA 7526 Advanced Topics in Functional Analysis 1.
Credits: 3

MAA 7527 Advanced Topics in Functional Analysis 2.
Credits: 3; Prereq: MAA 7526.

MAA 7528 Advanced Topics in Functional Analysis 3.
Credits: 3; Prereq: MAA 7527.

Mathematics—Discrete

MAD 5306 Theory of Graphs 1. W.
Credits: 4

MAD 5307 Theory of Graphs 2. S.
Credits: 4

MAD 5405 Numerical Methods of Differential Equations.
Credits: 4

MAD 6206 Combinatorial Theory 1.
Credits: 3

MAD 6207 Combinatorial Theory 2.
Credits: 3

MAD 6208 Combinatorial Theory 3.
Credits: 3

MAD 6407 Numerical Analysis.
Credits: 4

Mathematics Education

MAE 6940 Supervised Teaching.
Credits: 1 to 5††

Mathematics—Applied

MAP 5304 Intermediate Differential Equations for Engineers and Physical Scientists. F, W, S, SS.
Credits: 3

MAP 5345 Introduction to Partial Differential Equations. F, S, SS.
Credits: 3

MAP 5423 Introduction to Operational Calculus. W, SS.
Credits: 3

MAP 5484 Mathematics for Biological Sciences 1. F.
Credits: 3; Prereq: MAC 3311.

MAP 5485 Mathematics for Biological Sciences 2. W.
Credits: 3; Prereq: MAP 5484.

MAP 5486 Mathematics for Biological Sciences 3. S.
Credits: 3; Prereq: MAP 5485.

MAP 6216 Introduction to Calculus of Variations for Engineers and Physical Scientists.
Credits: 3

MAP 6356 Partial Differential Equations 1.
Credits: 3

MAP 6357 Partial Differential Equations 2.
Credits: 3

MAP 6358 Partial Differential Equations 3.
Credits: 3

MAP 6417 Fourier Series 1.
Credits: 3

MAP 6418 Fourier Series 2.
Credits: 3

MAP 6467 Stochastic Differential Equations and Filtering Theory 1. F.
Credits: 3

MAP 6468 Stochastic Differential Equations and Filtering Theory 2.
Credits: 3

MAP 6469 Stochastic Differential Equations and Filtering Theory 3.
Credits: 3

MAP 6472 Probability and Potential Theory 1.
Credits: 3; Prereq: MAA 5226, 5227, 5228, STA 6326.

MAP 6473 Probability and Potential Theory 2.
Credits: 3

MAP 6474 Probability and Potential Theory 3.
Credits: 3

MAP 6487 Biomathematics Seminar 1. F.
Credits: 3; Prereq: MAC 3311, MAC 3312, MAP 3302, STA 6326, STA 6327.

MAP 6488 Biomathematics Seminar 2. W.
Credits: 3; Prereq: MAP 6487.

MAP 6489 Biomathematics Seminar 3. S.
Credits: 3; Prereq: MAP 6488.

MAP 6505 Mathematical Methods of Physics and Engineering 1.
Credits: 3

MAP 6506 Mathematical Methods of Physics and Engineering 2.
Credits: 3

MAP 6507 Mathematical Methods of Physics and Engineering 3.
Credits: 3

MPA 7436 Seminar in Applied Mathematics 1.
Credits: 3

MAP 7437 Seminar in Applied Mathematics 2.
Credits: 3

MAP 7438 Seminar in Applied Mathematics 3.
Credits: 3

MAP 7475 Seminar in Mathematical System Theory.
Credits: 3

MAP 7477 Introduction to Mathematical System Theory 1.
Credits: 4

MAP 7478 Introduction to Mathematical System Theory 2.
Credits: 4

Mathematics: Algebraic Structures

MAS 5156 Vector Analysis. F, W, S, SS.
Credits: 3; Prereq: MAC 3314.

MAS 5331 Introductory Algebra 1. F.
Credits: 3; Prereq: MAS 4312 or MAS 4103.

MAS 5332 Introductory Algebra 2. W.
Credits: 3; Prereq: MAS 5331.

MAS 5333 Introductory Algebra 3. S.
Credits: 3; Prereq: MASS 5332.

MAS 5334 Rings, Modules and Linear Algebra.
Credits: 4; Prereq: Undergraduate linear algebra.

MAS 6158 Tensor Analysis.
Credits: 3

MAS 6329 Application of Group Theory in the Physical Sciences.
Credits: 3

MAS 6346 Algebra 1.
Credits: 3

MAS 6347 Algebra 2.
Credits: 3

MAS 6348 Algebra 3.
Credits: 3

MAS 7215 Theory of Numbers 1.
Credits: 3

MAS 7216 Theory of Numbers 2.
Credits: 3

MAS 7217 Theory of Numbers 3.
Credits: 3

††Grading is on S-U basis only.

MAS 7396 Advanced Topics in Algebra 1.
Credits: 3

MAS 7397 Advanced Topics in Algebra 2.
Credits: 3

MAS 7398 Advanced Topics in Algebra 3.
Credits: 3

Mathematics

MAT 6905 Individual Work.
Credits: 1 to 4

MAT 6910 Supervised Research.
Credits: 1 to 5††

MAT 6932 Special Topics in Mathematics.
Credits: 3

MAT 6971 Master's Research.
Credits: 1 to 15††

MAT 7980 Doctoral Research.
Credits: 1 to 15††

Mathematics: History and Foundations

MHF 5107 Introduction to Set Theory.
Credits: 4

MHF 6306 Mathematical Logic 1.
Credits: 3

MHF 6307 Mathematical Logic 2.
Credits: 3

MHF 6308 Mathematical Logic 3.
Credits: 3

Mathematics: Topology and Geometry

MTG 5316 Introduction to Topology 1.
Credits: 4; Prereq: MHF 5107.

MTG 5317 Introduction to Topology 2.
Credits: 4; Prereq: MTG 5316.

MTG 6227 Incidence Geometry 1.
Credits: 3

MTG 6228 Incidence Geometry 2.
Credits: 3

MTG 6237 Projective Geometry.
Credits: 3

MTG 6256 Differential Geometry 1.
Credits: 3

MTG 6257 Differential Geometry 2.
Credits: 3

MTG 6258 Differential Geometry 3.
Credits: 3

MTG 6266 Introduction to Commutative Algebra and Algebraic Geometry 1.
Credits: 3

MTG 6267 Introduction to Commutative Algebra and Algebraic Geometry 2.
Credits: 3

MTG 6268 Introduction to Commutative Algebra and Algebraic Geometry 3.
Credits: 3

MTG 6276 Theory of Convexity 1.
Credits: 3

MTG 6277 Theory of Convexity 2.
Credits: 3; Prereq: MTG 6276.

MTG 6278 Theory of Convexity 3.
Credits: 3; Prereq: MTG 6277.

MTG 6346 Topology 1.
Credits: 4; Prereq: MTG 5317.

††Grading is on S-U basis only.

MTG 6347 Topology 2.
Credits: 4; Prereq: MTG 6346.

MTG 6348 Topology 3.
Credits: 4; Prereq: MTG 6347.

MTG 7396 Advanced Topics in Topology 1.
Credits: 3

MTG 7397 Advanced Topics in Topology 2.
Credits: 3

MTG 7398 Advanced Topics in Topology 3.
Credits: 3

MECHANICAL ENGINEERING
College of Engineering

INSTRUCTIONAL STAFF 1979-80

Gaither, R.B., Chairman; Duffy, J.; Farber, E.A.; Freeman, W.L.; Gater, R.A.; Hansen, E.C.; Hsieh, C.K.; Ingley, H.A.; Ingman, H.M.; Irey, R.; Mahig, J.; Oliver, C.C.; Patterson, E.P.; Protrowski, G.; Roan, V.P.; Samuel, J.A.; Sandor, G.I.; Tesar, D.; Watts, E.H.

Engineering: General

EGN 2845 Mechanics of Sailing. S.
Credits: 2
Hydrodynamic, aerodynamic and other forces that act on a sailing vessel. Inquires into underwater drag and lift as well as such aerodynamic aspects as apparent wind, stall, and sail interaction. Introduce the concepts of lee and weather helm, live and fixed ballast, and centers of gravity and buoyancy.

EGN 3080 Man, Technology, and Civilization.
Credits: 2
The influence of engineering and technological progress upon cultural, economic and political history; the interrelationship between man's technological and social development.

EGN 3082 Energy—From Nature to Man.
Credits: 2
A course on energy technology aimed primarily at the nonengineering student. The approach is quantitative, but at a modest math level. Topics include: Natural resources, what they are and how much remain; ways and means of utilizing and conserving energy; new forms of energy, including solar, geothermal, nuclear.

EGN 3353 Fluid Mechanics. F, S.
Credits: 4; Prereq: EGM 3400, MAC 3314.
Statics and dynamics of incompressible and compressible fluids. Equations of continuity, energy and momentum with application to viscous and inviscid flows. Dimensional analysis.

Engineering: Mechanical

EML 2002 Conceptual Design of Thermal and Mechanical Systems.
Credits: 3; Prereq: Soph. or Junior Class.
An introductory course for mechanical engr. majors and others interested in conceptual aspects of mechanical design. Lectures on the design process are integrated with creative design projects.

EML 3005 Introduction to Mechanical Engineering Design. F, W.
Credits: 3 to 5; Prereq: EGN 1111; Coreq: EGM 3511.
Study and application of the design process, as related to mechanical and thermal systems. Exercises in problem definition, idea generation, decision making, selection of standard parts, and graphical, written, and oral communication. Drawing and machine shop laboratories are integrated with the lecture material.

EML 3100 Thermodynamics 1. F, W, S, SS.
Credits: 5; Prereq: MAC 3314, PHY 2042, CHM 2056.
First and second laws of thermodynamics, microscopic and macroscopic procedures for the calculation of thermodynamic properties, application to example systems.

EML 3101L Thermodynamics Laboratory. F, W, S, SS.
Credits: 1; Prereq: EML 3102, EML 3301C.
Experimental verification of thermodynamic principles.

EML 3102C Thermodynamics 2. F, W, S, SS.
Credits: 4; Prereq: EML 3100.
Microscopic analysis of transport processes, combustion, thermodynamic cycles, and irreversible thermodynamics.

EML 3202 Mechanisms and Kinematics. F, W, S, SS.
Credits: 4; Coreq: EGM 3400.
A study of the mechanisms used in machinery and the analysis of the motion obtained.

EML 3260 Machine Dynamics. F, W, S.
Credits: 4; Prereq: EML 3202; EGM 3400.
Principles of dynamics in the design of machinery.

EML 3301C Instrumentation and Measurements Laboratory. F, W, S, SS.
Credits: 2
Use of precision instruments and measurement standards in mechanical engineering. Preparation of engineering reports.

EML 3321 Manufacturing Processes. F, W, S, SS.
Credits: 3; Prereq: EMA 3010.
Machinery, materials and processes used in manufacturing.

EML 4140 Heat Transfer 1. F, W, S.
Credits: 3; Prereq: MAP 3302, EML 3100; Coreq: EGN 3353.
Analysis of steady state problems of conduction and radiation heat transfer. Introduction to convective transfer.

EML 4141 Heat Transfer 2. W, S, SS.
Credits: 3; Prereq: EML 4140, EML 3102; Coreq: EML 4709, EML 3101L. Continuation of EML 4140.
Transient conduction and free and forced convection. Heat transfer with phase change. Thermal systems design.

EML 4220 Mechanical Vibrations. F, W, S, SS.
Credits: 4; Prereq: EGM 3311 or MAP 3302, EGM 3400.
The single degree of freedom systems, multiple degree of freedom systems. Application to mechanical systems with problems employing computer techniques.

EML 4263 Dynamics of Rotating Machinery. S.
Credits: 3; Prereq: EGM 3400.
Analytical basis of design for machines characterized by high speed or massive rotor-shaft assemblies mounted on various types of bearing supports, as exemplified by turboshaft engines, centrifugal or axial flow compressors, vehicle drive trains, etc.

EML 4411 Mechanical Propulsion Systems. W, SS.
Credits: 3; Prereq: EML 3102C.
Gas and liquid fuels, internal combustion engines. Automotive, aircraft, and Diesel power plants.

EML 4411L Mechanical Propulsion Systems Laboratory.
Credits: 1; Coreq: EML 4411.
Testing of lubricants, gasoline, automobile engines, aircraft engines and high and low speed Diesel engines.

EML 4414 Heat Power Engineering.
Credits: 3; Prereq: EML 3102C.
Steam power plants and their auxiliary equipment.

EML 4414L Heat Power Engineering Laboratory.
Credits: 1; Coreq: EML 4414
Analysis of fuels, heating value, flue gas analysis, and the testing of boilers, turbines, engines, and steam plant auxiliary apparatus.

EML 4416 Solar Energy. F, S.
Credits: 3; Prereq: EML 3100 or permission of instructor.
Nature and availability, collection and storage, solar properties of materials, conversion to heat, power and electricity for domestic and industrial consumption including transportation.

EML 4419 Aircraft Propulsion. S.
Credits: 3; Prereq: EML 3100, EML 4140 or equivalent. Coreq: EML 4709.
Physical basis of propulsion, gas turbines and ramjet fundamentals. Introduction to compressor and turbine design. Propulsion performance. Unconventional means of propulsion in space.

EML 4450 Energy Conversion. W.
Credits: 3; Prereq: EML 3102C.
Thermomechanical and thermoelectric energy conversion. Conventional and unconventional techniques and analysis for energy systems interactions.

EML 4500 Machine Analysis and Design 1. F, W, S, SS.
Credits: 3; Prereq: EGM 3520; Coreq: EML 3260, or permission of instructor for non-ME students.
Stress analysis of machine elements, design procedure, design of machine elements.

EML 4501 Machine Analysis and Design 2. F, W, S, SS.
Credits: 3; Prereq: EML 3321, EML 4500.
Advanced problems in design, and the design of a complete machine.

EML 4502 Machine Analysis and Design 3. S.
Credits: 3; Prereq: EML 4501.
Machine systems design.

EML 4522 Mechanical Engineering Analysis. F, W, S.
Credits: 3; Prereq: MAP 3302, EGM 3400.
Mathematical Analysis and Controls of Mechanical Engineering Systems, including mechanical, eletromechanical, hydraulic, pneumatic and thermal components and subsystems.

EML 4600 Heating and Air Conditioning. W.
Credits: 3; Prereq: EML 4601.
Heating and air conditioning systems. Equipment selection, system arrangement and duct design.

EML 4601 Refrigeration and Air Conditioning. F, S.
Credits: 3; Coreq: EML 3102C.
Refrigerating and air conditioning, apparatus and their applications to the industrial, commercial and residential fields.

EML 4601L Refrigeration and Air Conditioning Laboratory. F, S.
Credits: 1; Coreq: EML 4601.
Performance tests on air conditioning and refrigeration equipment. AC system design.

EML 4709 Fluid Dynamics. W, S, SS.
Credits: 3; Prereq: EGN 3353, EML 3100.
Thermodynamics and mechanics of fluid flow systems, compressible and incompressible flow systems.

EML 4905 Individual Problems in Mechanical Engineering. F, W, S, SS.
Credits: 1 to 5; Prereq: Approval of Department Counselor. GPA 2.3.
Selected problems or projects in the student's major field of engineering study. May be repeated with a change of content up to a maximum of 12 credits.

EML 4920 Professional Orientation. F.
Credits: 1; Prereq: Senior Engineering Student.
Principles of mechanical engineering practice, professional standards and ethics.

EML 4926 Mechanical Consulting Practice. SS.
Credits: 3; Prereq: Senior standing.
Synthesis and analysis of mechanical engineering systems, planning and execution of engineering contracts, supervision of construction and tests.

EML 4936 Mechanical Engineering Seminar. F, W, S, SS.
Credits: 1; Prereq: Senior Engineering Student.
Presentation of papers on current developments in mechanical engineering.

EML 4945 Practical Work in Mechanical Engineering. F, W, S, SS.
Credits: 1 to 5; Prereq: EG Classification.
Practical engineering work under industrial supervision, as set forth in the College of Engineering Regulations.

EML 4949 Co-op Work Experience. F, W, S, SS.
Credits: 1††; Prereq: Freshman Year. EG Classification.
Practical co-op work experience under approved industrial supervision.

GRADUATE COURSES

EML 5104 Classical Thermodynamics.
Credits: 3

EML 5105 Statistical Thermodynamics.
Credits: 3

EML 5152 Intermediate Heat Transfer.
Credits: 3

EML 5223 Design Synthesis in Vibrations.
Credits: 3

EML 5224 Engineering Acoustics and Noise Control.
Credits: 3

EML 5273 Advanced Dynamics of Machinery.
Credits: 3

EML 5311 Control System Theory.
Credits: 3

EML 5504 Mechanical Design 1.
Credits: 3

EML 5505 Mechanical Design 2.
Credits: 3

EML 5515 Gas Turbines and Jet Engines.
Credits: 3

EML 5526 Biomechanics of Surgical Implants.
Credits: 3

EML 5527 Similitude in Mechanical Engineering Design.
Credits: 3

EML 5605 Advanced Refrigeration.
Credits: 3

EML 5714 Gas Dynamics of Internal Flow Systems.
Credits: 3

EML 6103 Advanced Thermodynamics.
Credits: 3

EML 6108 Advanced Statistical Mechanics and Kinetic Theory.
Credits: 3

EML 6131 Combustion 1.
Credits: 3

EML 6132 Combustion 2.
Credits: 3

EML 6153 Advanced Heat Transfer.
Credits: 3

EML 6154 Conduction Heat Transfer.
Credits: 3

EML 6155 Convective Heat Transfer 1.
Credits: 3

EML 6156 Convective Heat Transfer 2.
Credits: 3

EML 6157 Radiation Heat Transfer.
Credits: 3

EML 6159 Special Topics in Heat Transfer.
Credits. 3

EML 6254 Advanced Noise Control.
Credits: 3

EML 6272 Dynamics of Machine Systems.
Credits: 3

EML 6274 Dynamic Synthesis of Direct Contact Mechanisms.
Credits: 3

EML 6275 Coplanar Kinematic Synthesis 1.
Credits: 3

EML 6276 Coplanar Kinematic Synthesis 2.
Credits: 3

EML 6277 Spatial Kinematic Synthesis and Analysis.
Credits: 3

EML 6278 Advanced Rotor Dynamics.
Credits: 3

EML 6306L Instrumentation and Measurements Laboratory.
Credits: 1

EML 6417 Solar Energy Utilization.
Credits: 3

EML 6418 Special Topics in Solar Energy.
Credits: 3

EML 6452 Energy Conversion.
Credits: 3

EML 6506 Sliding-Element Bearing Analysis and Design.
Credits: 3

EML 6507 Rolling-Element Bearing Analysis and Design.
Credits: 3

EML 6508 Computer-Aided Design Optimization.
Credits: 3

EML 6606 Advanced Air Conditioning 1.
Credits: 3

EML 6607 Advanced Air Conditioning 2.
Credits: 3

EML 6715 Special Topics in Fluid Dynamics.
Credits: 3

EML 6716 Thermodynamics of Fluid Flow 1.
Credits: 3

EML 6717 Thermodynamics of Fluid Flow 2.
Credits: 3

EML 6718 Thermodynamics of Fluid Flow 3.
Credits: 3

EML 6905 Individual Projects in Mechanical Engineering.
Credits: 1 to 5

EML 6906 Advanced Mechanical Laboratory 1.
Credits: 3

EML 6910 Supervised Research.
Credits: 1 to 5††

EML 6911 Mechanical Research 1.
Credits: 1 to 3

EML 6935 Graduate Seminar.
Credits: 1††

EML 6940 Supervised Teaching.
Credits: 1 to 5††

EML 6971 Master's Research.
Credits: 1 to 15††

EML 7980 Doctoral Research.
Credits: 1 to 15††

††Grading is on S-U basis only.

Descriptions

MEDICAL TECHNOLOGY

MECHANIZED AGRICULTURE
College of Agriculture
(Administered by the Department of Agricultural Engineering)

MAG 3052 Engineering Concepts and Agriculture. F.
Credits: 3
Introduction to agricultural mechanization, management of related natural resources, energy systems, application of energy and technology, environmental protection and social interactions.

MAG 3220 Agricultural Mechanics 1. F, W, S.
Credits: 4
Basic principles and development of manual and managerial skills in relation to hand and power tools in construction, repair, and maintenance of agricultural machines and equipment.

MAG 3312 Farm Machinery. F, S.
Credits: 4
The functional requirements, operating principles, performance, safety, and economic application of agricultural field machines and mechanized systems of production.

MAG 3503 Agriculture and Environmental Quality. W, SS.
Credits: 4
Analysis of effects of agriculture on environmental quality; emphasis on agricultural wastes and practices; potential for using agricultural systems for disposal of other wastes; effects of pollution on the agricultural environment.

MAG 3732 Water Management. W.
Credits: 4
Basic hydrology; rainfall, intensity, depth, frequency, distribution and runoff. Conservation practices, land drainage, irrigation and management alternatives are emphasized.

MAG 4062 Principles of Food Engineering. W.
Credits: 5; Prereq: MAC 1132 and five credits of physics.
The functional requirements and principles of operation of systems for handling and processing of food and agricultural products.

MAG 4225 Agricultural Mechanics 2. F, S.
Credits: 5; Prereq: MAG 3220 and upper division classification.
Principles, practices, and decision making in construction, selection, operation, and maintenance of agricultural machines, buildings, and utilities.

MAG 4642 Environmental Systems for Agricultural Structures. S.
Credits: 4; Prereq: MAC 1132.
Effects of the environment on plant and animal production, processing operations, and quality of stored produce. Selection of building materials and sizing of components of environmental systems in agricultural structures to enhance more efficient agricultural production, processing and storage.

MAG 4941 Full Time Practical Work Experience in Mechanized Agriculture. SS.
Credits: 1 to 4††; Prereq: Prior arrangement with advisor, approval of Department Chairman and Dean

MEDICAL TECHNOLOGY
College of Health Related Professions

INSTRUCTIONAL STAFF 1979-80

Britt, M.S., Chairman; Andiric, L.; Fisher, F.; Hornsby, J.; Jordan, V.G.; Leonard, C.; Liddell, A.; Pierson, K.K.; Rodeheaver, J.L.

See also course offerings under Health Related Professions (HRP).

††Grading is on S-U basis only.

Medical Laboratory Sciences

MLS 2030 Introduction to Medical Technology. F, W, S.
Credits: 2
History, ethics and organizations of medical technology. Types of employment and job opportunities.

The courses below are open only to those persons who have been accepted into the Medical Technology Curriculum:

MLS 3308 Fundamentals of Medical Technology-Hematology. F.
Credits: 3
Basic theory in clinical hematology including hematopoiesis, hemoglobinometry, introduction to anemias, principles of cell counting, morphology of normal cells, introduction to hemostasis.

MLS 3308L Introduction to Laboratory Procedures 1. F.
Credits: 1
Basic skills in clinical hematologic procedures.

MLS 3550 Fundamentals of Medical Technology-Blood Banking. S.
Credits: 3
Principles and theories of immunohematology including blood group antigens and antibodies, selection and processing of donors, preparation and use of blood components.

MLS 3550L Introduction to Laboratory Procedures 3. S.
Credits: 1
Basic laboratory techniques in blood banking.

MLS 3627 Fundamentals of Medical Technology-Clinical Chemistry. W.
Credits: 3
Scientific principles and theory in instrumentation and clinical chemistry.

MLS 3627L Introduction to Laboratory Procedures 2. W.
Credits: 2
Laboratory procedures emphasizing basic skills in instrumentation and clinical chemistry.

MLS 3932 Seminar: Essentials of Medical Laboratory Science. F.
Credits: 2
Presentation of topics pertinent to each of the basic medical laboratory sciences. Content is germane to current mathematical and instrumental analyses utilized in concurrent and advanced courses.

MLS 3933 Seminar: Current Topics in Clinical Laboratory Science. S.
Credits: 1
Various topics for the developing professional in clinical laboratory sciences.

MLS 4830C Clinical Laboratory Practicum 1. SS.
Credits: 5
Orientation to laboratory technique during supervised rotation through clinical pathology laboratories.

MLS 4831C Clinical Laboratory Practicum 3. F.
Credits: 5
Second quarter of the sequence MLS 4830C, 4831C, 4832C, 4833C.

MLS 4832C Clinical Laboratory Practicum 5. W.
Credits: 5
Third quarter of the sequence MLS 4830C, 4831C, 4832C, 4833C.

MLS 4833C Clinical Laboratory Practicum 7. S.
Credits: 5
Fourth quarter of the sequence MLS 4830C, 4831C, 4832C, 4833C.

MLS 4840C Clinical Laboratory Practicum 2. SS.
Credits: 5
Practical application of laboratory skills during supervised rotations through clinical pathology laboratories.

MLS 4841C Clinical Laboratory Practicum 4. F.
Credits: 5
Second quarter of the sequence MLS 4840C, 4841C, 4842C, 4843C.

MLS 4842C Clinical Laboratory Practicum 6. W.
Credits: 5
Third quarter of the sequence MLS 4840C, 4841C, 4842C, 4843C.

MLS 4843C Clinical Laboratory Practicum 8. S.
Credits: 5
Fourth quarter of the sequence MLS 4840C, 4841C, 4842C, 4843C.

MLS 4850 Principles of Clinical Laboratory Methodology 1. SS.
Credits: 2
The principles and theory of laboratory practice in clinical chemistry and toxicology; hematology; microbiology and parasitology; microscopy and urinalysis; serology; immunology and blood banking; special procedures. Clinical laboratory organization, administration and management are presented.

MLS 4851 Principles of Clinical Laboratory Methodology 2. F.
Credits: 2
The second quarter of the course sequence MLS 4850, 4851, 4852, 4853.

MLS 4852 Principles of Clinical Laboratory Methodology 3. W.
Credits: 2
The third quarter of the course sequence MLS 4850, 4851, 4852, 4853.

MLS 4853 Principles of Clinical Laboratory Methodology 4. S.
Credits: 2
The fourth quarter of the course sequence MLS 4850, 4851, 4852, 4853.

MLS 4934C Seminar in Medical Technology 1. F.
Credits: 1
Selected topics in clinical laboratory methodology; laboratory organization, administration, management; current research, developments, literature, related areas.

MLS 4935C Seminar in Medical Technology 2. W.
Credits: 1
The second quarter of the course sequence MLS 4934C, 4935C, 4936C.

MLS 4936C Seminar in Medical Technology 3. S.
Credits: 1
The third quarter of the course sequence MLS 4934C, 4935C, 4936C.

MEDICINAL CHEMISTRY
College of Pharmacy

INSTRUCTIONAL STAFF 1979-80

Bodor, N.S., Chairman; Bergeron, R.J.; Finger, K.F.; Hammer, R.H.; Perchalski, R.J.; Rao, K.V.; Schulman, S.G.

PHA 3351 Natural Psychotropic Drugs. W.
Credits: 3; Prereq: Pharmacy classification or by permission.
An in-depth presentation covering the sources, chemical characteristics, physiological activity and possible toxic effects of a number of naturally occurring psychotropic agents many of which are commonly in use in the drug subculture.

PHA 3411 Analytical Pharmaceutical Chemistry. F.
Credits: 4; Prereq: Pharmacy classification.
Chemical and instrumental methods of analysis with emphasis on the determination of drugs in dosage forms and biological fluids.

PHA 3412L Analytical Pharmaceutical Chemistry. W, S.
Credits: 2; Prereq: PHA 3411.
The laboratory experiments to reinforce Analytical Pharmaceutical Chemistry PHA 3411.

PHA 4350 Medicinal Chemistry 1—Natural Products. F.
Credits: 4; Prereq: BCH 4203.
Isolation, structure and pharmaceutical applications of natural products used as prescription and non-prescription drugs, with emphasis on structure/activity associations.

PHA 4352 Folk Medicine. F.
Credits: 3; Prereq: PHA 4350 or permission of instructor.
Folk medicine is the use of herbal remedies and dietary changes in the prevention and treatment of disease. This course provides a basic understanding of the pharmaceutical, medical and social aspects of folk medicine as it is being practiced in the U.S.

PHA 4413 Chromatographic Separations. F.
Credits: 2; Prereq: PHA 3412L or permission from the instructor.
Lecture and laboratory course for the study of methods for the qualitative and quantitative determination of drugs in pharmaceutical products by chromatographic methods.

PHA 4435 Medicinal Chemistry 2. W.
Credits: 5; Prereq: PHA 4120.
The relationship of physical and chemical factors to drug activity of inorganic and organic medicinal compounds.

PHA 4436 Medicinal Chemistry 3. S.
Credits: 5; Prereq: PHA 4435.
The second quarter of PHA 4435-4436.

PHA 4906 Problems in Medicinal Chemistry. F, W, S, SS.
Credits: 1 to 3††; Prereq: PHA 4435, an average of 2.75 in all chemistry and pharmaceutical chemistry courses taken and permission of the instructor. May be repeated for maximum of 9 credits.
Library and/or laboratory research on assigned subjects.

GRADUATE COURSES

PHA 5359 Cancer Chemotherapy. S.
Credits: 3; Prereq: PHA 4350, BCH 4203.

PHA 6354 Natural Medicinal Products I.
Credits: 3

PHA 6355 Natural Medicinal Products II.
Credits: 3

PHA 6356 Natural Medicinal Products III.
Credits: 3

PHA 6357L Natural Medicinal Products I.
Credits: 3

PHA 6358L Natural Medicinal Products II.
Credits: 3

PHA 6416 Pharmaceutical Analysis I.
Credits: 5

PHA 6417 Pharmaceutical Analysis II.
Credits: 5

PHA 6418 Pharmaceutical Analysis III.
Credits: 5

PHA 6445 Drug Design.
Credits: 5

PHA 6470 Synthetic Medicinal Products I.
Credits: 3

PHA 6471 Synthetic Medicinal Products II.
Credits: 3

PHA 6472L Synthetic Medicinal Products I.
Credits: 3

PHA 6473L Synthetic Medicinal Products II.
Credits: 3

PHA 6474 Synthetic Medicinal Products III.
Credits: 3

PHA 6905C Research Procedures in Medicinal Chemistry.
Credits: 2 to 6

PHA 6910 Supervised Research.
Credits: 1 to 5††

PHA 6934 Seminar in Medicinal Chemistry.
Credits: 1

PHA 6940 Supervised Teaching.
Credits: 1 to 5††

PHA 6971L Master's Research.
Credits: 1 to 15††

PHA 7980L Doctoral Research.
Credits: 1 to 15††

MEDICINE
College of Medicine

For a complete description of the courses offered by the College of Medicine, see the Catalog of the College of Medicine and the Graduate School Catalog.

Interdisciplinary Programs

For well-qualified undergraduates who receive departmental permission , two programs for individual interdisciplinary majors exist within the College of Medicine: one of Biochemical and Neural Sciences and the other in Neurobiology. The former involves course work in the Departments of Biochemistry and Neuroscience and the latter involves course work in the Departments of Neuroscience and Psychology. Both courses involve laboratory research and additional elective courses. Application should be made to the departments concerned in the sophomore or junior years.

BCH 3613 Introduction to Human Molecular Biology. S.
Credits: 3; Prereq: ZOO 2014, APB 2152 or equivalent; CHM 2043 or equivalent.
Introduction to molecular biology of normal and abnormal human systems for students in the Life Sciences. Relationship of biochemistry to advances in medical sciences, organization of human cells, cell duplication and mutability of the human genome, nutrition and metabolic diseases, viral diseases, and cell growth and proliferation (cancer, aging).

BMS 4021 Introduction to Neurochemistry. S.
Credits: 4; Prereq: Biochemistry.
Methods of neurochemical analysis, metabolism and function of nervous system chemicals, synaptic transmission, axoplasmic flow and selected topics of current interest.

BMS 4022 Biochemical and Neural Sciences.
Credits: 1; Prereq: Admission to Interdisciplinary Program in Biochemical and Neural Sciences.
A weekly seminar discussing topics of current interest in the biochemical and neural sciences.

BMS 4023 Current Topics in Brain and Behavior.
Credits: 4; Coreq: BMS 4024.
Biological bases of behavior, and structural and functional correlates of learning.

BMS 4024 Experimental Methods in Brain and Behavior. S.
Credits: 1 to 4; Prereq: PSB 3004; Coreq: BMS 4023.
An introduction to current techniques used in research on brain and behavior.

BMS 4025 Introduction to the Neurosciences. F.
Credits: 4, Prereq: ZOO 2014 or equivalent and consent of instructor.
Structure and basic functions of the mammalian nervous system Human neuroanatomy, including peripheral and central structures from spinal cord to cerebral cortex. Fundamental concepts of neurophysiology, including initiation, propagation and synaptic transmission of the nerve impulse. Sensory, motor, and integrative activities. Elements of neurochemistry and neuropharmacology.

BMS 4905 Medical Sciences Senior Research. F, W, S, SS.
Credits: 2 to 5; Prereq: Senior standing and consent of instructor.
Laboratory or literature investigations of problems of current interest in the medical sciences.

EXP 3719L Laboratory Topics in Psychophysics. F, S.
Credits: 2; Prereq: PSY 2013 or consent of instructor.
A practicum in experimental methodology. Students collect, analyze, and evaluate data on specific problems related to brain mechanisms of skin sensation.

GRADUATE COURSES

BMS 5511 Vision
Credits: 4

GMS 5702 Neurohumors and Behavior. S.
Credits: 4

MICROBIOLOGY & CELL SCIENCE
College of Agriculture; College of Liberal Arts and Science

INSTRUCTIONAL STAFF 1979-80

Previc, E.P., Acting Chairman; Bleiweis, A.S., Associate Chairman; Achey, P.M.; Aldrich, H.C.; Bitton, G.; Brookbank, J.W.; Coleman, S.E.; Davis, F.C., Jr.; Duggan, D.E.; Farrah, S.; Gifford, G.E.; Gregg, J.H.; Hannah, L.C.; Hoffmann, E.M.; Hubbell, D.H.; Ingram, L.O.; Karp, G.C.; Koburger, G.C.; Milam, J.R.; Preston, J.F.; Schneider, N.J.; Smith, K.L.; Smith, P.H.; Tate, R.L.; Tyler, M.E.; Zam, S.G.

"A major in Microbiology and Cell Science requires course background in biology, general and organic chemistry, quantitative analysis, physics and calculus. Major requirements include BCH 4313, MCB 3020, MCB 3020L, PCB 3136 and at least 21 credits of junior and senior level departmental course offerings (BCH 4203 may count toward the 21 credits). One laboratory course beyond MCB 3020L is required. A course in physical chemistry is recommended for students anticipating later work toward a research graduate degree. Undergraduate majors are required to have their major program approved by an undergraduate advisor from the department."

Applied Biology

APB 2170 Microbiology. F, W, S, SS.
Credits: 3
Microorganisms in relation to evolution and higher organisms; their functions in chemical transformation, food, disease, and sanitation. Terminal course, not acceptable for admission to advanced microbiology courses. Available for UC credit in Biological Sciences.

APB 2170L Discussion Laboratory in Microbiology. F, W, S, SS.
Credits: 2; Optional with ABP 2170.

††Grading is on S-U basis only

MILITARY SCIENCE

APB 4544 Human Parasitology. S.
Credits: 4; Prereq: BSC 2010C.
Host-parasite relationships of helminth and protozoan diseases important in health sciences and veterinary medicine.

APB 4544L Human Parasitology Laboratory. S.
Credits: 1; Coreq: APB 4544.
Laboratory in human parasitology.

APB 4545L Human Parasitology Laboratory for Medical Technologists. S.
Credits: 1; Coreq: APB 4544.
Diagnostic procedures for identification of human parasitic diseases.

GRADUATE COURSES

APB 5405L Radiation Biology Laboratory. W.
Credits: 2; Coreq: ENU 5626.

APB 6933 Special Topics in Radiation Biology. S.
Credits: 5; Prereq: ENU 5626.

Immunology & Medical Microbiology
GRADUATE COURSES

BMS 6330 Virology
Credits: 5

BMS 6330L Virology Laboratory
Credits: 3

Environmental Engineering Science
GRADUATE COURSE

EES 6106 Environmental Microbiology.
Credits: 4

Microbiology

MCB 3020 Basic Biology of Microorganisms. F, W, S, SS.
Credits: 3; Prereq: BSC 2010C, CHM 3210.
Structure, nutrition and growth of bacteria; characterization of representative bacteria and viruses; metabolic peculiarities, and introduction to genetics and control mechanisms. Prerequisite to all advanced courses.

MCB 3020L Basic Biology of Microorganisms Laboratory. F, W, S, SS.
Credits: 2; Optional with MCB 3020.
Laboratory techniques as a means of the study of the structure, nutrition and growth of microorganisms.

MCB 4203 Bacterial Pathogens. S.
Credits: 3; Prereq: PCB 4233.
Host-parasite relationships in the diseases of man and animals. The characteristics of bacterial pathogens. Basic techniques of isolation and identification.

MCB 4203L Experiments with Bacterial Pathogens. S.
Credits: 2; Optional with MCB 4203.

MCB 4303 Genetics of Microorganisms. S.
Credits: 5; Prereq: MCB 3020, BCH 4313.
Microbial and viral genome structure and implications, mutation, gene transfer and genetic mapping, plasmids, recombinant DNA mechanisms and uses.

MCB 4303L Lab for Microbial Genetics.
Credits: 2; Prereq: MCB 3020 and BCH 4313; Coreq: MCB 4303.
Methods for mutation, gene transfer, DNA isolation, genetic mapping, plasmid isolation, restriction enzyme uses, phage isolation and preparation.

††Grading is on S-U basis only

MCB 4403 Bacterial Cell Structure and Function. F.
Credits: 5; Prereq: CHM 3211; MCB 3020.
An analysis of the cell structure and physiology of bacterial cells. Extensive discussions of cell division and cell growth is provided, along with descriptions of important bacterial cell structures (e.g., cell walls, membranes, flagella, etc.).

MCB 4403L Bacterial Cell Structure and Function Laboratory. F.
Credits: 2; Optional with MCB 4403.
A laboratory in experimental bacteriology. Course covers experiments in microbial metabolism, physiology, structure, and genetics.

MCB 4413 Cell Metabolism and Regulation. W.
Credits: 4; Prereq: CHM 3211, BCH 4313, MCB 3020. MCB 4403 recommended.
Energy metabolism and pathways of prokaryotic and eukaryotic cells; emphasis on quantitation and regulation.

MCB 4503C General Virology. W.
Credits: 5; Prereq: MCB 3020, BCH 4313.
Nature of viruses and mechanisms of infection and replication. Includes bacterial, animal and plant viruses.

MCB 4905 Undergraduate Research. On Demand.
Credits: 2 to 5; Prereq: Permission of undergraduate coordinator.
Individual laboratory research under the close guidance of a selected faculty member. Enrollment limited to undergraduate majors in Micro-biology. Required of, but not limited to, candidates for Honors and High Honors. May be repeated up to a maximum of 15 credits.

GRADUATE COURSES

MCB 5605C Advanced Microbial Ecology with Lab.
Credits: 5; Prereq: Permission.

MCB 6127 The Literature of Microbiology.
Credits: 3

MCB 6306 Microbial and Cell Genetics.
Credits: 4

MCB 6407 Microbial and Cell Physiology.
Credits: 4

MCB 6417 Microbial and Cell Metabolism.
Credits: 4

MCB 6457 Regulation in Biological Systems.
Credits: 5

MCB 6520 Viral Diseases.
Credits: 3

MCB 6757C, Biology of Uncommon Microorganisms.
Credits: 5

MCB 6905 Experimental Microbiology.
Credits: 1 to 12

MCB 6910 Supervised Research.
Credits: 1 to 5††

MCB 6913 Research Planning.
Credits: 5

MCB 6930 Seminar.
Credits: 1

MCB 6937 Special Topics in Microbiology.
Credits: 1 to 6

MCB 6940 Supervised Teaching.
Credits: 1 to 5††

MCB 6971 Master's Research.
Credits: 1 to 5††

MCB 7914 Research Conference.
Credits: 1

MCB 7922 Journal Colloquy.
Credits: 1

MCB 7980 Doctoral Research.
Credits: 1 to 15††

MILITARY SCIENCE—AIR FORCE AEROSPACE Studies Program

INSTRUCTIONAL STAFF 1979-80

Littman, M., Col.; Cole, C.W., Maj.; Eburno, J.V., Capt.; Gilbert, R.L., Capt.; Varady, B.J., Capt.

In addition to the requirements listed below, each student enrolled must participate in 10 hours of Leadership Laboratory each quarter. General Military Course students receive instruction on the environment of an Air Force Base, career opportunities available to a commissioned officer, and an introduction to military customs and courtesies. Advanced Professional Officer Course students participate in activities designed to permit practical application of leadership principles and techniques expected of a junior officer.

AIR FORCE—ROTC

AFR 1101 USAF Strategic Offensive Forces. F.
Credits: 1
Introduction to the history, mission, organization and doctrine of the United States Air Force. A study of U.S. Strategic Offensive Forces; the effects and employment of nuclear weapons, the Strategic Air Command and the Navy's Fleet Ballistic Missile System.

AFR 1111 USAF Strategic Defensive Forces. W.
Credits: 1
The concepts of aerospace defense and the mission and functions of NORAD, CONAD, and ADC. A study of the various systems and functions associated with defense against manned bombers and missiles.

AFR 1120 USAF General Purpose and Support Forces. S.
Credits: 1
A brief review of Army, Navy and Marine general purpose forces. An introduction to counter-insurgency and special operations. Tactical air power. A review of the Major Air Commands providing aerospace support functions; airlift, research and development, logistics and education and training.

AFR 2130 The Development of Airpower — The Basic and Early Aspects. F.
Credits: 1
The development of airpower from the beginning of manned flight through the inter-war years. Evolution of air tactics & strategy, and pre-World War II air doctrine. Discussion of the nature of war itself.

AFR 2131 The Development of Airpower—World War II, Berlin Airlift and Korean War. W.
Credits: 1
The development and use of airpower from 1941 through the early fifties. The concept of air superiority. Technological advances in aircraft, the independent Air Force.

AFR 2140 Development of Aerospace Power—Korea to the Present. S.
Credits: 1
Discussion of the uses of airpower in the Cuban Missile Crisis, Southeast Asia, North Vietnam and the Middle East. Concepts, doctrine, and the employment of aerospace power in the nuclear age. Technological advances and implications for the future.

AFR 3220 Air Force Management. F.
Credits: 3
Introduction to the Professional Officer Course. Heavy emphasis is placed on development of basic communicative skills needed by modern managers. Overview of the fundamentals of management such as motivation, individual behavior, group and organization structure, to provide a basis for the development of the Air Force junior officer's managerial skills.

AFR 3230 Air Force Leadership. S.
Credits: 3
Further development of communicative skills and consideration of the Air Force manager as a leader. Study of power and politics, strategy and tactics. Personal values versus organizational values and management of change. Introduction to the variables affecting leadership and the professional responsibilities of the officer.

AFR 3231 The Air Force Junior Officer. W.
Credits: 3
A continuing development of communicative skills and introduction to the basic managerial processes such as individual and group decision-making, analytical aids to decision-making, setting objectives, formulating policy, organizing, staffing and controlling. Exploration of Air Force personnel management.

AFR 4201 The Military Profession and Society. F.
Credits: 3
Introduction to elements of military professionalism. Emphasis is placed on examination of military professional development and civil-military relations.

AFR 4210 Elements of Defense Policy. W.
Credits: 3
International and domestic restraints in the formulation of defense policy, the foundations of modern strategy, evolving strategy in the nuclear age, and contemporary strategy and realistic deterrence.

AFR 4211 The Formulation and Implementation of U.S. Defense Policy. S.
Credits: 3
The bureaucratic inputs: The DOD, Congress and the President as organizational actors. Case studies in policy making, with emphasis on innovation and change. Introduction to military justice.

MILITARY SCIENCE — ARMY ROTC

INSTRUCTIONAL STAFF 1979-80

Novak, J.R., Col., PMS; McDowell, R.J., Maj.; Rice, J.H., Maj.; Schweider, T.L., Maj; Gibbs, C., Maj.; Kerrins, R.D. Jr., CPT; Knowlton, C.D., CPT; Stout, Thomas E. Jr., CPT.; Streb, F., CPT.

There are no prerequisites for any courses. All 3000 and 4000 level courses are solely for advanced students. Acceptance to these requires approval of the Professor of Military Science.

Students in the 1000 and 2000 level courses may take either classwork (1 credit hour) or Leadership Laboratory (1 credit hour) or both (2 credit hours). Laboratory instruction is progressive beginning with basic drill and advancing to integrated application of leadership techniques and use of military equipment.

Military Science

MIS 1022 Organization of Army and ROTC. F.
Credits: 1
Introduction, purpose, history and organization of ROTC and the Army; the officer personnel management system; individual weapons instruction and application; introduction and application of map reading and communication principles.

MIS 1220 Branches of the Army. S.
Credits: 1
The missions and roles of the various branches of the Army and their overall respective contribution to the functions of the Army.

MIS 1300 Introduction to the Military Team. W.
Credits: 1
Appreciation of the fundamentals and techniques of small unit tactics; emphasis on firepower, movement, communication; review of basic military team; develops understanding of duties, responsibilities, methods of patrolling.

MIS 1490 Freshman Leadership Laboratory. F.
Credits: 1
Laboratory consists of a two-hour bloc of instruction which directly supports freshman classroom instruction. Students may take classroom (MIS 1022) or laboratory or both.

MIS 1491 Freshman Leadership Laboratory. W.
Credits: 1
Laboratory consists of a two-hour bloc of instruction which directly supports freshman classroom instruction. Students may take classroom (MIS 1300) or laboratory of both.

MIS 1492 Freshman Leadership Laboratory. S.
Credits: 1
Laboratory consists of a two-hour bloc in instruction which directly supports freshman classroom instruction. Students may take classroom (MIS 1220) or laboratory or both.

MIS 1654 Intensified Course: Basic Skills, Tactics, Field Training. F, W, S, SS.
Credits: 5
A detailed concept of the US Army's mission and roles played by newly commissioned officers in accomplishing same. Primarily leadership training incorporating military tactics and techniques, map reading, communications, weaponry, etc. Course culminates in a 48 hour field training exercise. Successful course completion constitutes credit for freshman/sophomore AROTC. Student must attend 2 hour leadership laboratory weekly.

MIS 2000 The Army as a Profession. W.
Credits: 1
An in-depth examination of the role played by junior officers in the U.S. Army to include potential duty stations and assignment, service customs and courtesies, obligations and benefits. Subject matter is viewed in light of both the tactical and non-tactical environment.

MIS 2300 Tactics—Platoon and Small Units. S.
Credits: 1
To develop an awareness of the principles and fundamentals of tactical operations and tactics with primary emphasis on the planning and coordinating required of a platoon leader and between the elements of the platoon team.

MIS 2493 Sophomore Leadership Laboratory. F.
Credits: 1
Laboratory consists of a two-hour bloc of instruction which directly supports sophomore classroom instruction. Students may take classroom (MIS 2601) or laboratory or both.

MIS 2495 Sophomore Leadership Laboratory. W.
Credits: 1
Laboratory consists of a two-hour bloc of instruction which directly supports sophomore classroom instruction. Students may take classroom (MIS 2000) or laboratory or both.

MIS 2496 Sophomore Leadership Laboratory. S.
Credits: 1
Laboratory consists of a two-hour bloc of instruction which directly supports sophomore classroom instruction. Students may take classroom (MIS 2300) or laboratory or both.

MIS 2601 Land Navigation and Introduction to Orienteering. F.
Credits: 1
Study and application of basic principles of maps and aerial photographs; terrain appreciation and evaluation; military and topographic map symbols and grid reference systems; orientation, intersection and resection; study and use of lensatic compass. Background of orienteering as a sport and techniques employed in successful competition.

MIS 3305 Tactics—Company, Military Geography. W.
Credits: 3
Leader's role in directing and coordinating individuals and small units in the execution of offensive and defensive tactical missions at company level; military geography, weapons and communications systems; intelligence gathering capabilities.

MIS 3404 Leadership Fundamentals and Tactics. Camp Preparation. S.
Credits: 3
Course is designed to improve students proficiency in those military subjects which are necessary to meet the minimum standards of technical competence and self-confidence required of a junior officer in the U.S. Army and to improve the student's retention of subjects to be given during summer camp. Major emphasis is on various types of physical conditioning and non-tactical situations. Students must attend training sessions given at various times and locations.

MIS 3610 Methods of Instruction. F.
Credits: 3
An appreciation of the fundamental psychological concepts involved with methods of instruction and curriculum development as it is used in the military. Guest lecturers will provide the broadest possible background for students. Application opportunities will be afforded all students so that learned techniques can be practiced within a controlled environment.

MIS 4101 American Military History.
Credits: 1 to 4
Credit for MIS 4101 will be awarded upon the completion of AMH 4172, 4270, 4271, 4546, or 4547. Course descriptions are listed under the History Department.

MIS 4420 Leadership Seminar—Case Studies. W.
Credits: 3
A situational approach to leadership and management stressing group dynamics and role-playing. Principles and theories developed in MIS 3404 and 4430 coursework are applied by the student to conflict situations which occur in the tactical and non-tactical environment. Superior-subordinate and peer relationships are emphasized.

MIS 4421 Seminar in Military Leadership and Management. S.
Credits: 3
Analysis of selected leadership and management problems involved in unit administration, military justice and the Army Readiness Program. Discussion of the obligations of an officer on active duty, senior-subordinate relationships, and Army career planning.

MIS 4430 Staff Functions. F.
Credits: 3
A study of staff functions, the interaction between components of the Army, functions and controls of supporting units, logistics management and a general preview of career opportunities within the Army structure.

MILITARY SCIENCE — NAVY ROTC

INSTRUCTIONAL STAFF 1979-80

Cooper, W.H., Col., Chairman; Reid, L.R., Cdr.; Fretwell, J.B., Major; Lyons, T.W., Lt.; Miller, C.D., Lt.; Sheridan, A.L., Lcdr.; Barba, R.E. Jr., Lt.; Baines, B.A., Lt(jg).

NSC 1101 Naval Science Laboratory. F, W, S.
No Credits: (Two hours per week)
Drill, orientation, and information period.

NSC 1110 Principles of Naval Organization. F.
Credits: 3
An introduction to the structure and principles of naval organization. Organizational concepts are examined including lines of command and control to the various major, intermediate, and basic shore establishment and sea-based units of the Navy and Marine Corps. Also included is a basic introduction to the U.S. Naval Service and its history including the traditions and customs.

NSC 1121 Introduction to Naval Ships Systems I. W.
Credits: 3
A continuation of NSC 1121, mostly oriented to ship's propulsion auxiliary systems and such top-

ics as thermodynamics, electricity, and nuclear power and their interrelationships and interdependency of all of ship's systems to the successful mission of a ship.

NSC 1122 Introduction to Naval Ships Systems II. S.
Credits: 3
The broad objectives of this comprehensive study are to learn the basic considerations for hull design of naval vessels, and to relate buoyancy, equilibrium, stability and the effects of flooding to the design characteristics of naval vessels, and to learn the basic principles of modern ship's systems.

NSC 2102 Naval Science Laboratory. F, W, S.
No Credits: (Two hours per week).
Drill, orientation, and information period.

NSC 2131 Naval Weapons Engineering 1. F.
Credits: 3
An introduction to the characteristics and principles of operation of naval weapons systems with emphasis on capabilities and system interdependency.

NSC 2132 Naval Weapons Engineering 2. W.
Credits: 3
A continuation of NSC 2131.

NSC 2140 Seapower and Maritime Affairs Seminar. S.
Credits: 2
A seminar to develop a working knowledge of an interest in seapower and maritime affairs. Discussions will include the forms and strengths, the economics' and realities, and the power and influence of seapower.

NSC 3103 Naval Science Laboratory. F, W, S.
No Credits: (Two hours per week.)
Practical exercises dealing with the specifics of military organization and leadership.

Naval Science Courses

NSC 3213 Naval Operations. S.
Credits: 3
A comprehensive study of ship employment and movements. Tactical formations and dispositions, relative motion, the maneuvering board, ship-handling, and communications. The nautical Rules of the Road including lights, signals and procedures are also studied.

NSC 3214C Navigation 1. F.
Credits: 3 (3 lecture hours, 1 lab hour.)
A comprehensive study of the theory, principles, and procedures of ship navigation. Topics include piloting, dead reckoning, tides and tidal currents, nautical chartwork, and navigation instruments.

NSC 3215C Navigation 2. W.
Credits: 3 (3 lecture hours, 1 lab hour) Prereq: NSC 3214C.
A continuation of NSC 3214C. Topics include principles of celestial navigation, spherical triangulation, practical work involving sight reduction, and electronic navigation.

NSC 3221 Evolution of Warfare 1. F.
Credits: 3
A study of the art, concepts, and evolution of warfare. Exploration of the forms of warfare practiced by the great peoples of history; an understanding of historical continuity and of change during important periods; development of a basic sense of strategy from historical examples; the ability to demonstrate the alternatives to past military actions; an examination of the great captains and military organizations to discover the ingredients of their success; and examination of the impact of historical precedent on military thought and action. This course must be taken by junior level midshipmen electing to enter the Marine Corps.

NSC 3222 Evolution of Warfare 2. W.
Credits: 3
A continuation of NSC 3221 for junior level midshipmen electing to enter the Marine Corps.

NSC 4104 Naval Science Laboratory. F, W, S.
No Credits: (Two hours per week.)
Practical exercises dealing with the specifics of Naval organizations and leadership.

NSC 4224 Amphibious Warfare 1. F.
Credits: 3
A historical survey of the projection of seapower ashore. The course seeks to define the concept, explore its doctrinal origins, and trace its evolution as an element of naval policy during the twentieth century. The case study method is used alongside the theme of general historical continuity to develop an understanding of the relatively new and still maturing concept of amphibious warfare. This course must be taken by senior level midshipmen electing to enter the Marine Corps.

NSC 4225 Amphibious Warfare 2. W.
Credits: 3
A continuation of NSC 4224 for senior level midshipmen electing to enter the Marine Corps.

NSC 4230 Naval Administration and Management. F.
Credits: 3
An introduction to the principles of naval administration and management. The course employs the experiential approach in teaching such principles. The student develops skills in the areas of communications, counseling, leadership and basic management functions through active classroom participation which includes the use of case studies, experiential exercises, and situational problem-solving. Professional responsibility and the Navy Human Resources Management program are focused on throughout the course.

NSC 4233 Junior Naval Officer. W.
Credits: 3
Naval personnel and material management, organization, administration, and discipline are the major areas of focus for this course. Course seeks to prepare student for the personal and professional responsibilities he/she will encounter immediately upon becoming a commissioned officer. This final capstone in the NROTC curriculum builds upon those competencies developed in earlier naval science courses and during previous summer cruise training.

NSC 4246 Nuclear Power Analysis. S.
Credits: 3
An in-depth review of nuclear physics, electrical theory, fluid mechanics, thermodynamics, and chemistry as applied to the Naval Nuclear Propulsion Program. Introduction to principles of radiation, radiological controls, shielding, materials of construction, and propulsion plant operation. This course is intended primarily for Midshipmen entering the Nuclear Power Program.

NSC 4247 Aviation Systems Analysis. S.
Credits: 3
Topics include: aviation physiology, survival, meteorology, aerodynamics, avionics systems, air navigation, naval aviation history, pipelines, and squadron affairs.

NSC 4248 Surface Systems Analysis. S.
Credits: 3
The purpose of this course is to prepare surface warfare officer designates for Junior Officer assignments in Surface Warfare units and provide a practical foundation for attainment of qualification as Surface Warfare Officers. Upon completion of this course the student will be provided elementary skills and knowledge enabling him to serve as a Junior Officer of the Watch, Combat Information Center Watch Officer, and Inport Watch Officer.

MUSIC

College of Fine Arts

INSTRUCTIONAL STAFF 1979-80

Udell, Budd, A., Chairman; Adams, E.A.; Bodine, W.R.; Bowles, R.W.; Brask, W.J.G.; Dickson, R.A.; Dorman, P.O.; Fouse, S.B.; Grigsby, J.R.; Hale, J.P.; Henderson, R.M.; Jaeger, I.C.; Keister, E.L.; Kitts, J.S.; Kushner, D.Z.; Langford, R.G.; Ostoich, M.S.; Penland, A.C., Jr.; Poole, R.; Small, T.S.; Sterrett, D.E.; Troupin, E.C.; White, C.B.; Wickes, F.B.; Wilmot, D L.; Zumbro, J.M.

Degree programs in music include: the Bachelor of Music and Bachelor of Arts, in which degrees a student may major in music theory and composition, history and literature, church music, or applied music in piano, voice, organ, harpsichord, or in any orchestral instrument; the Bachelor of Music Education degree; the Master of Fine Arts; and the Master of Education degree with a major in music education. A prospective music major should consult the Department of Music adviser at his earliest opportunity, obtain detailed outlines of curricula and requirements, and make application for admission to music major status.

Music Performance Scholarships are available. Courses offered in the Department of Music are divided into five areas: Theory; Composition; History and Literature; Applied Music; Music Education; Ensemble.

Enrollment is open to all qualified University students — those preparing for a professional goal in music and those seeking a musical literacy for its cultural value.

GRADUATE COURSES

The Master of Fine Arts degree in music (emphases on music history, literature and criticism, music theory and composition, applied music, sacred music, and conducting) is offered in the College of Fine Arts.

The Department of Music cooperates with the College of Education in offering courses leading to the following degrees: Master of Education in music education (non-thesis degree); Master of Arts in Education in music education (thesis degree); Specialist in Education; Doctor of Education in college music teaching (emphasis in music education); Doctor of Philosophy in college music teaching (emphases in music history, literature and criticism, music theory and composition, performance practices, and music education).

Rotating Topics courses at the graduate level include the following: MUH 6930, 7930 Topics in Musicology (History of American Music, Seminar in Romantic Music, Seminar in Renaissance Music, History of Opera, etc.); MUL 6931, 7931. Topics in Music Literature (Symphonic Literature, Piano Literature, Romantic Music Literature, Contemporary Music Literature, etc.); MUT 6930, 7930. Topics in Music Theory (Analytic Techniques, Contemporary Compositional Techniques, History of Music Theory, etc.); and MUE 6932, 7932. Topics in Music Education (Supervision and Administration of Music Education Programs, Psychology of Music, The Instrumental Curriculum, The Elementary School Music Curriculum, The Secondary School General Music Curriculum, etc.).

APPLIED MUSIC

GENERAL POLICY

Applied Music courses, which are studio and class lessions in voice and musical instruments, are offered in voice, piano, organ, violin, viola, violoncello, string bass, flute, oboe, clarinet, bassoon, French horn, trumpet, trombone, euphonium, tuba, percussion, saxophone, harp, harpsichord, recorder, and historical instruments. These courses are primarly for music majors. They are open to non-majors by special audition only.

The student registering for the first time for courses in Applied Music reports to the Chairman of the Department of Music, who designates a faculty member to audition and/or consult with the student and assign the student to the proper applied music course number.

The student should obtain from the Department of Music the publication, "Applied Music Study at the University of Florida."

S-U Grades option and auditing of courses in Applied Music are not permitted.

Freshman Courses (1000 level) emphasize basic techniques. A student normally takes one of these courses for three quarters.

Sophomore Courses (2000 level) emphasize repertory and mastery of the basic techniques of the performing medium. A student normally takes one of these courses for three quarters.

Junior Courses (3000 level) and Senior Courses (4000 level) are for advanced study. A student normally takes one of these courses for three quarters. Recitals must be presented at the University of Florida.

The PERFORMER'S CERTIFICATE will be awarded at the discretion of the faculty to students who complete the graduation requirements of the Senior Courses.

Music: Applied Brasses

MVB 1411, 2421, 3431, 4441 Trumpet. F, W, S, SS.
Credits: 3 each term.

MVB 1412, 2422, 3432, 4442 French Horn. F, W, S, SS.
Credits: 3 each term.

MVB 1413, 2423, 3433, 4443 Trombone. F, W, S, SS.
Credits: 3 each term.

MVB 1414, 2424, 3434, 4444 Euphonium.
Credits: 3 each term.

MVB 1415, 2425, 3435, 4445 Tuba. F, W, S, SS.
Credits: 3 each term.

Music: Applied Keyboard

MVK 1411, 2421, 3431, 4441 Piano. F, W, S, SS.
Credits: 3 each term.

MVK 1412, 2422, 3432, 4442 Harpsichord. F, W, S, SS.
Credits: 3 each term.

MVK 1413, 2423, 3433, 4443 Organ. F, W, S, SS.
Credits: 3 each term.

MVK 1011 Preparatory Piano Skills. W, S, SS.
Credits: 2 each course.
Three hours of class meetings (1 lecture and 2 supervised drill sessions). Open only to music majors. This course is designed to bring deficient students up to expected college-level study. Credit is not applicable toward the degree. This course may be exempted by examination.

MVK 2111 Piano Skills. F, W, S, SS.
Credits: 2
Three hours of class meetings (1 lecture and 2 supervised drill sessions). Open only to music majors. This course is required of all music majors until piano proficiency examination has been passed. May be repeated for credit.

Music: Applied Other Instruments

MVO 1413, 2423, 3433, 4443 Historical Instruments. F, W, S, SS.
Credits: 3 each term.

MVO 1414, 2424, 3434, 4444 Recorder. F, W, S, SS.
Credits: 3 each term.

MVO 6250, 7260 Secondary Applied Music. F, W, S, SS.
Credits: 3 each term.

MVO 6460, 7460 Applied Music. F, W, S, SS.
Credits: 3 each term.

Music: Applied Percussion

MVP 1411, 2421, 3431, 4441 Percussion. F, W, S, SS.
Credits: 3 each term.

Music: Applied Strings

MVS 1411, 2421, 3431, 4441 Violin. F, W, S, SS.
Credits: 3 each term.

MVS 1412, 2422, 3432, 4442 Viola. F, W, S, SS.
Credits: 3 each term.

MVS 1413, 2423, 3433, 4443 Cello. F, W, S, SS.
Credits: 3 each term.

MVS 1414, 2424, 3434, 4444 String Bass. F, W, S, SS.
Credits: 3 each term.

MVS 1415, 2425, 3435, 4445 Harp. F, W, S, SS.
Credits: 3 each term.

MVS 4145 Harp Skills. F, W, S.
Credits: 2; Prereq: Permission of instructor.
The harp in orchestra and chamber music with emphasis on writing for the instrument. For prospective conductors, arrangers, composers.

Music: Applied Voice

MVV 1411, 2421, 3431, 4441 Voice. F, W, S, SS.
Credits: 3 each term.

Music: Applied Woodwinds

MVW 1411, 2421, 3431, 4441 Flute. F, W, S, SS.
Credits: 3 each term.

MVW 1412, 2422, 3232, 4442 Oboe. F, W, S, SS.
Credits: 3 each term.

MVW 1413, 2423, 3433, 4443 Clarinet. F, W, S, SS.
Credits: 3 each term.

MVW 1414, 2424, 3434, 4444 Bassoon. F, W, S, SS.
Credits: 3 each term.

MVW 1415, 2425, 3435, 4445 Saxophone. F, W, S, SS.
Credits: 3 each term.

Church Music

MUR 3401 Organ Design and Literature. F.
Credits: 4; Primarily for organists.
Church architectural design and acoustics; liturgical forms; liturgical year; service music; service playing.

MUR 4801 Music in Worship. W.
Credits: 4; Prereq: MUH 3211, 3212, 3213 or equivalent.
Primarily for church music directors. Hymnology; choral literature for specific contexts; church music administration.

Composition

MUC 2101, 2102, 2103 Composition Skills 1, 2, 3. F, W, S.
Credits: 1 each course; Prereq: One year of basic music theory or permission of instructor.
Required for all majors in theory/composition. Workshop in composition techniques, exploring use of styles and devices of the 20th century.

MUC 3201, 3202, 3203 Composition 1, 2, 3. F, W, S.
Credits: 3 each course; Prereq: Composition Skills or permission of instructor.
Composition in simple and extended forms, supplemented by analysis of selected compositions from the standard repertoire.

MUC 4204, 4205 Composition 1, 2. F, W.
Credits: 3 each course; Prereq: MUC 3203 or equivalent, or permission of instructor.
An extension of the courses MUC 3201, 3202, 3203.

MUC 4301 Introduction to Electronic Music. W, SS.
Credits: 4; Prereq: Permission of instructor.
Use of the synthesizer and tape recorder in composition.

GRADUATE COURSE

MUC 6401 Composition of Electronic Music. S.
Credits: 4

Conducting

MUG 4101, 4102 Conducting 1, 2. F, W, S, SS.
Credits: 4 each course; Prereq: Twelve credits in one area of applied music or permission of the instructor.
Basic techniques of choral and instrumental conducting.

MUG 4201 Choral Conducting. W, SS.
Credits: 4; Prereq: 12 credits in 1 area of applied music, MUT 2248 and MUG 4101, or permission of instructor.
Basic techniques of choral conducting, score analysis, interpretation, and development of ensemble tonal quality.

Music Education

MUE 2402 Music Skills. F, W, S, SS.
Credits: 4
Fundamentals of music needed by the classroom teacher for teaching music in the elementary school. Not open to Freshman. Students with sufficient background in music may exempt the course by examination.

MUE 2403 Instruments for General Music, K-12. F, SS.
Credits: 2; Open only to music education majors, or permission of instructor.
A skills course recorder, guitar, and Orff instruments. Maximum: 6 credits.

MUE 2431 Voice Skills. F, W, S, SS.
Credits: 2; Open only to music majors.
Required of all music education majors. May be repeated for credit with departmental approval. Maximum: 6 credits.

MUE 2440 String Skills. F, W, S.
Credits: 2; Open only to music majors.
Required of all music education majors. May be repeated for credit with departmental approval. Maximum: 6 credits.

MUE 2450 Woodwind Skills. F, W, S.
Credits: 2; Open only to music majors.
Required of all music education majors. May be repeated for credit with departmental approval. Maximum: 6 credits.

MUE 2460 Brass Skills. F, W, S.
Credits: 2; Open only to music majors.
Required of all music education majors. May be repeated for credit with departmental approval. Maximum: 6 credits.

MUE 2470 Percussion Skills. F, W, S.
Credits: 2; Open only to music majors.
Required of all music education majors. May be repeated for credit with departmental approval. Maximum: 6 credits.

MUE 3030 Music Ed. Secondary 7-12. S.
Credits: 5; Prereq: MUE 3113 or equivalent.
Fundamental principles and procedures of music education in the secondary school.

Descriptions

MUSIC

MUE 3093 Music in the Field of Recreation. W.
Credits: 4
The various uses of music in the field of recreation.

MUE 3113 Music in Elem. Schools. W.
Credits: 5
Fundamental principles and procedures of music education in elementary school.

MUE 3320 Music Education in the Middle School. SS.
Credits: 5
Fundamental principles of music education in the middle school.

MUE 3401 Music for the Elementary Child. F, W, S, SS.
Credits: 5††; Prereq: MUE 2402 or equivalent.
Helps meet state certification requirements for elementary classroom teachers. Function of elementary school music in aiding the developmental growth of children.

MUE 4343 Orchestra Materials and Administration. W, SS.
Credits: 4; Prereq: MUE 3030 or permission of instructor.
Examination, evaluation and techniques of using string and orchestra materials in the music program. Fundamental principles of organization and administration of the orchestra program.

MUE 4404 Elementary School Music Materials and Administration. W, SS.
Credits: 4; Prereq: MUE 3030.
Examination, evaluation and techniques of using materials in the elementary music program. Fundamental principles and problems of organization and administration of this program.

MUE 4411 Vocal Music Materials and Administration. W, SS.
Credits: 4; Prereq: MUE 3030 or permission of instructor.
Examination, evaluation and techniques of using vocal materials in secondary music program. Fundamental principles and problems of organization and administration of this program.

MUE 4412 Instrumental Music Materials and Administration. W, SS.
Credits: 4; Prereq: MUE 3030 or permission of instructor.
Examination, evaluation, and techniques of using instrumental materials in the music program. Fundamental principles and problems of organization and administration of this program.

MUE 4480 Marching Band Techniques. S, SS.
Credits: 4
Examination, evaluation, and practical application of marching band techniques for the high school and college band director.

GRADUATE COURSES

MUE 6080 Foundations of Music Education.
Credits: 4

MUE 6143 Music in the Schools. F, W, S, SS.
Credits: 2 to 9

MUE 6146 Band Music in the Public Schools.
Credits: 4

MUE 6147 Orchestra Music in the Public Schools.
Credits: 4

MUE 6396 Methods of Research in Music Education. F, SS.
Credits: 4

MUE 6406 Music in the Elementary School.
Credits: 4

MUE 6416 Vocal Music in the Secondary School.
Credits: 4

††Grading is on S-U basis only.

MUE 6932, 7932 Topics in Music Education. F, W, S, SS.
Credits: 4 each

MUE 7938 Music Education Seminar.
Credits: 4

Music: History/Musicology

MUH 3211 Survey of Music History 1. F.
Credits: 4; Prereq: MUL 2111 or permission of instructor.
Antiquity, Middle Ages, and Renaissance.

MUH 3212 Survey of Music History 2. W.
Credits: 4; Prereq: MUL 2111 or permission of instructor.
Baroque and Classic periods.

MUH 3213 Survey of Music History 3. S.
Credits: 4; Prereq: MUL 2111 or permission of instructor.
Romantic and contemporary periods.

MUH 3541 Latin-American Music. S.
Credits: 4; Prereq: MUL 2011 or equivalent.
Representative works of the leading composers of Latin America, including Chavez, Villa-Lobos, Guarnieri, Sas, Williams, UribHolguin Calvalho, Santa Cruz, Delgadillo, and Paz.

MUH 4116 History of Jazz. S.
Credits: 4
From African, Latin-American, and Black-American sources, through contemporary development.

MUH 4501 Non-Western Musics. W.
Credits: 4
Introduction to musics of non-western cultures in comparison with music of Western European Civilizations; the nature of music and the realm of ethnomusicology.

MUH 4561 Music of Black Americans. F.
Credits: 4
African heritage; Colonial Period to the present, musical literature, performers, composers. Open as an elective to all students.

GRADUATE COURSES

MUH 6050 Graduate Music History Review.
Credits: 4

MUH 6930, 7930 Topics in Musicology. F, S.
Credits: 4 each

Music Literature

MUL 2011 Introduction to Music Listening. F, W, S, SS.
Credits: 4
A fundamental course open to all students (non-music majors) as an elective. Concert attendance, listening to records, reading, and discussion.

MUL 2111 Musical Styles. W, SS.
Credits: 4
Styles, forms, underlying ideas, rhythmic, melodic, and harmonic characteristics of each musical era related to the prevailing general culture. For music majors only, or with permission of instructor.

MUL 2112 Masterworks of Music. W.
Credits: 4
Works of master composers in the various stylistic periods, 1600 to the present; Bach and Handel; Mozart and Haydn; Beethoven; the nineteenth and early twentieth century. Open as an elective to all students (non-music majors); may follow MUL 2011 or may be taken separately.

MUL 2113 Musical Structures. S.
Credits: 4
Symphonies, symphonic poems, opera, oratorio and solo and chamber works. Open as an elective to all students (non-music majors); may follow MUL 2011 and MUL 2111 or may be taken separately.

MUL 3341 Baroque Literature. S.
Credits: 4; Prereq: MUL 2011 or equivalent.
Compositions of Monteverdi, Gabrieli, Schutz, Buxtehude, Bach, Handel, and others.

MUL 3351 Classic Literature. F.
Credits: 4; Prereq: MUL 2011 or equivalent.
Music of the major composers of the Classic period, with special emphasis on Haydn, Mozart and Beethoven.

MUL 3362 Romantic Vocal Literature. F.
Credits: 4; Prereq: MUL 2011 or equivalent.
Lieder, opera, music drama, oratorio, and vocal chamber music and Beethoven to Richard Strauss; analysis of form and style.

MUL 4334 Renaissance Literature. W.
Credits: 4; Prereq: MUL 2111 or equivalent.
Instrumental music, mass, madrigal, motet, and vocal polyphony from 1400 to 1600.

MUL 4361 Romantic Instrumental Literature. W.
Credits: 4; Prereq: MUL 2011 or equivalent.
Beethoven to Richard Strauss. Symphony, tone poem, chamber music, and piano works.

MUL 4371 Contemporary Literature. S.
Credits: 4; Prereq: MUL 2011 or equivalent.
Twentieth-century music literature, including works of DeBussy, Ravel, Stravinsky, Schoenberg, Webern, Berg, Hindemith, Bartok, Copland, Sessions, Boulez, and Stockhausen.

MUL 4811 The Music of J.S. Bach. SS.
Credits: 4
This course will survey the works of Bach with special emphasis on the historical sources of his choral and instrumental styles and detailed study of a selection of his chief works.

MUL 4813 The Music of W.A. Mozart. S.
Credits: 4
The music, life and times of Mozart.

GRADUATE COURSES

MUL 6931, 7931 Topics in Music Literature. W, SS.
Credits: 4 each

Ensembles

Ensemble Credit. Six ensemble credit hours may be applied toward most non-music Bachelor degrees. In each term music majors must register for, and participate in, ensembles appropriate to their skills as required by the various music curricula. Each music major should have both large and chamber ensemble experience in his undergraduate career, as recommended by the individual applied music instructor. Lower Division students register for a 1000-level number; Upper Division students register for a 3000-level number. For ensemble participation, graduate students register for MUN 6000 Graduate Ensemble.

MUN 1110 Marching Band. F.
Credits: 1; Prereq: Permission of conductor.
Performance of marching band literature.

MUN 1120 Concert Band. F, W, S.
Credits: 1
Performance of general and popular band literature.

MUN 1130 Symphonic Band. F, W, S, SS.
Credits: 1; Prereq: By audition.
Performance of traditional and contemporary band literature.

MUN 1210 University Orchestra. F, W, S, SS.
Credits: 1; Prereq: Permission of conductor.
Standard orchestra literature.

MUN 1310 University Choir. F, W, S, SS.
Credits: 1; Prereq: Permission of conductor.
An advanced choral group providing specialized study performance opportunities for vocally qualified students.

MUN 1320 Women's Chorale. F, W, S.
Credits: 1; Prereq: Previous choral or instrumental experience and permission of conductor.
Vocal training and public performances of standard male chorus repertoire.

MUN 1330 Men's Glee Club. F, W, S.
Credits: 1; Prereq: Previous choral or instrumental experience and permission of conductor.
Vocal training and public performance of standard male chorus repertoire.

MUN 1380 Choral Union. W.
Credits: 1; Prereq: Permission of conductor.
Performance of large choral works.

MUN 1460 Chamber Music Ensembles. F, W, S, SS.
Credits: 1; Prereq: Permission of director.

MUN 3710 Jazz Bands. F, W, S, SS.
Credits: 1; Prereq: Permission of director.
Standard and experimental jazz ensembles. A jazz laboratory.

MUN 3340 University Chamber Singers. F, W, S, SS.
Credits: 1; Membership by audition and permission of instructor.
Study and performance of early and contemporary vocal literature.

MUN 3490 Renaissance Ensemble. F, W, S, SS.
Credits: 1; Prereq: Permission of director.
Study and performance of Renaissance instrumental music on authentic replicas of Renaissance instruments.

GRADUATE COURSES

MUN 6000 Graduate Ensemble. F, W, S, SS.
Credits: 1

Opera Musical Theatre

MUO 3501 Opera Workshop. F, W, S, SS.
Credits: 1; Prereq: Permission of director.
Study and performance of works from opera and operetta.

For additional courses in music education, see course listings, MUE 6080, 6146, 6147, 6406, 6416, 7938.

Music Theory

MUT 1111, 1112, 1113 Theory of Music 1, 2, 3. F, W, S.
Credits: 3 each course; Coreq: MUT 1241, 1242, 1243, MUE 2431, MVK 2111, 2112. Registration in applied music study; and admission to music major status.
Rhythms, intervals, motifs, phrases, melodies, chords and chord progressions, in the standard clefs through listening, playing, singing and writing. Chord study includes primary and secondary triads in root position and inversions, nonharmonic tones and diatonic seventh chords.

MUT 1241, 1242, 1243 Theory of Music Lab 1, 2, 3. F, W, S.
Credits: 1 each course; Coreq: MUT 1111, 1112, 1113.
Sight-singing and dictation.

MUT 2116, 2117, 2118 Theory of Music 4, 5, 6. F, W, S.
Credits: 3 each course; Coreq: MUT 2246, 2247, 2248, MVK 2113, 2114, 2115.
Modulation, secondary dominants, diminished sevenths, neapolitan and augmented sixths, chords of the ninth, eleventh and thirteenth.

MUT 2246, 2247, 2248 Theory of Music Lab 4, 5, 6. F, W, S.
Credits: 1 each course; Coreq: MUT 2116, 2117, 2118.
Sight-singing and dictation.

MUT 3321, 3322 Instrumentation and Arranging 1, 2. W, S.
Credits: 4 each course; Prereq: MUT 2118 or equivalent.
Scoring for the instruments of the orchestra and band, singly and in various combinations.

MUT 3611 Form and Analysis 1. W.
Credits: 4; Prereq: MUT 2118.
Analysis of the form and harmony employed in standard musical compositions through the classic period.

MUT 3612 Form and Analysis 2. S.
Credits: 4; Prereq: MUT 2118.
Analysis of music of the nineteenth and twentieth centuries.

MUT 4411 Modal Counterpoint. F, S.
Credits: 4; Prereq: MUT 2118.
Free and strict counterpoint in the sixteenth century modal style through listening, reading, playing, singing, and writing.

MUT 4421 Tonal Counterpoint. W, SS.
Credits: 4; Prereq: MUT 2118.
Counterpoint in the 18th-century style through listening, reading, playing, singing, and writing.

MUT 4601 Score Reading. F.
Credits: 3; Prereq: Completion of Piano Skills MVK 2111(C) or equivalent, or permission of instructor.
Score-reading at the keyboard. Exercises in realization of music in two or more staves and clefs, and involving instrumental transpositions.

MUT 4615 Analysis of Early Music. F.
Credits: 3; Prereq: MUT 3611, 3612 Form and Analysis or equivalent, or permission of instructor.
Analysis of music before 1600. Chant, Organum, Ars Nova, and Renaissance.

MUT 4626 Advanced Analytical Techniques. W.
Credits: 3; Prereq: MUT 3611, 3612 Form and Analysis or equivalent, or permission of instructor.
Musical analytic methods of Schenker, Hindemith, Hanson, La Rue, et al., with emphasis on music after 1900.

MUT 4641 Jazz Improvisation. S.
Credits: 2; Prereq: Permission of instructor.

GRADUATE COURSES

MUT 6051 Graduate Music Theory Review.
Credits: 4

MUT 6751 Pedagogy of Music Theory. F, W, S, SS.
Credits: 4

MUT 6930, 7931 Topics in Music Theory. F, W, S, SS.
Credits: 4 each

Music

MUS 4201, 4202 Language and Diction for Singers 1, 2.
Credits: 1 each course; Prereq: MUV 1411.
1 hour of class instruction per week. Open to students studying voice. Required of all music education majors whose principal applied music is voice.

MUS 4905 Projects and Problems in Music. F, W, S, SS.
Credits: 5
Individual work in music and music education. May be repeated for credit with change of content.

GRADUATE COURSES

MUS 5665 Music Criticism. SS.
Credits: 4; Prereq: MUL 2011 or equivalent or permission of instructor.

MUS 6716 Methods of Musical Research and Bibliography. F, SS.
Credits: 4

MUS 6905, 7905 Projects and Problems in Music. F, W, S, SS.
Credits: 5 each

MUS 6910 Supervised Research. F, W, S, SS.
Credits: 1 to 5††

MUS 6940 Supervised Teaching. F, W, S, SS.
Credits: 1 to 5††

MUS 6955 Individual Project. F, W, S, SS.
Credits: 1 to 15††

MUS 6971 Masters Research. F, W, S, SS.
Credits: 1 to 15††

MUS 6973 Individual Project. F, W, S, SS.
Credits: 1 to 15††
Creative project or graduate recital in lieu of written thesis. Project or recital must be acceptable to candidate's supervisory committee and to the Graduate School.

NUCLEAR ENGINEERING SCIENCES
College of Engineering

INSTRUCTIONAL STAFF 1979-80

Carroll, E.E., Acting Chairman; Campbell, H.D.; Dalton, G.R.; Diaz, N.J.; Dugan, E.T.; Ellis, W.H.; Roessler, G.S.; Schneider, R.T.; Schoessow, G.J.; Vernetson, W.G.; Wethington, J.A., Jr.;

Engineering: Nuclear

ENU 3002 Survey of Nuclear Technology in Modern Life. F, W, S, SS.
Credits: 3; 3-1 hr lec; Prereq: Upper division standing or consent of instructor.
The impact of nuclear technology on our society. Fundamentals of nuclear fission and fusion processes with applications.

ENU 3012 History of Nuclear Energy. F, S.
Credits: 4; 4-1 hr lec; Prereq: Exposure to modern European and American history plus a year of natural science.
The evolution of nuclear weapons in World War II, change from military to civilian control, and maturation of nuclear power.

ENU 4101 Principles of Nuclear Reactors. F, S.
Credits: 4; 4-1 hr lec; 1-1 hr disc; Prereq: Senior standing or above.
Introduction to nuclear reactor concepts, instrumentation, operation, fuels, materials, shielding, and power generation for the non-nuclear engineering major.

ENU 4103 Introduction to Nuclear Engineering 1. W.
Credits: 4; 4-1 hr lec; Coreq: PHY 3123.
Elementary study of neutron reactions, neutron diffusion, multiplication factors for simple nuclear reactors, and time dependent behavior of nuclear systems.

ENU 4104 Introduction to Nuclear Engineering 2. S.
Credits: 4; 4-1 hr lec.
Continuation of ENU 4103. Study of elementary reactor control and instrumentation, radiation effects, nuclear materials, biological effects of radiation, health regulations.

ENU 4134 Thermodynamics, Heat and Mass Transfer in Nuclear Systems. F.
Credits: 4; 4-1 hr lec; Prereq: EML 3100.
Thermodynamic aspects of nuclear power, reactor heat generation and removal, and heat transfer and fluid flow.

††Grading is on S-U basis only.

Descriptions

NUCLEAR ENGINEERING SCIENCES

ENU 4144 Nuclear Power Reactor Systems. W.
Credits: 4; 4-1 hr lec.
The general design criteria for nuclear power reactors. The systems and major components of each system of different types of nuclear reactors. Nuclear reactor fuels, quality assurance, reactor licensing.

ENU 4192 Nuclear Power Reactor Design. S.
Credits: 4; 4-1 hr lec; Prereq: Senior standing or above.
Design of major systems and components of several types of nuclear power reactors.

ENU 4304 Applications of Nuclear Radiation and Energy 1. W.
Credits: 4; 4-1 hr lec; 1-1 hr disc.
The use of radioisotopes and ionizing radiation in solving engineering and research problems. The use of nuclear explosives for peaceful purposes will also be examined.

ENU 4405 Nuclear Processing and Separations. W.
Credits: 4; 4-1 hr lec; Prereq: Senior standing or above.
Chemical processing of fertile and fissile materials and irradiated fuels, changes in composition and reactivity during fuel irradiation, nuclear reactors and the chemical plants associated with them, waste disposal.

ENU 4505L Nuclear Engineering Laboratory 1. S, SS.
Credits: 4; 2-1 hr lec; 2-4 hr lab; Prereq: ENU 4104.
A study of the experimental procedures used in reactor operation, personnel monitoring, radiation detection devices and the statistics of nuclear counting systems.

ENU 4601 Applications of Nuclear Radiation and Energy 2. S.
Credits: 3; 3-1 hr lec; 1-3 hr lab; Prereq: PHY 3123.
The application of radioactive materials and ionizing radiation for measurements in chemistry, physics, engineering, geology, and astrophysics.

ENU 4605 Interaction of Radiation with Matter. W.
Credits: 4; 4-1 hr lec; Prereq: PHY 3123.
The processes by which radiation interacts with matter and applications in research, industry, and medicine.

ENU 4612 Nuclear Instrumentation Systems. F.
Credits: 4; 3-1 hr lec; 1-3 hr labs; Prereq: Senior standing or above.
Basic operational principles of radiation detection systems; counting circuitry and systems for radiation protection, nuclear reactor safety and control.

ENU 4704 Advanced Concepts for Nuclear Energy. F.
Credits: 4; 4-1 hr lec; 1-1 hr disc.
A basic introduction to plasmas is given with emphasis on engineering applications. The areas to be covered are: thermonuclear fusion, lasers, gas discharges, arcs, MHD power generation, and thermionic energy conversion.

ENU 4905 Special Problems in Nuclear Engineering Sciences. F, W, S, SS.
Credits: 1 to 6; 3 hr lab; Prereq: Recommendation of Department Chairman.
Individually selected problems or projects in the student's major field of engineering study. May be repeated up to maximum of 12 credits.

ENU 4949 Coop Work Experience Sciences. F, W, S, SS.
Credits: 1††; 3 hr lab; Prereq: 4EG classification: one term of industrial employment, including extra work according to a preapproved outline.
Practical engineering work under industrial supervision, as set forth in the College of Engineering Regulations.

††Grading is on S-U basis only.

GRADUATE COURSES

ENU 5005 Fundamentals of Reactor Engineering.
Credits: 4

ENU 5148 Reactor Technology 2.
Credits: 4

ENU 5176L Principles of Nuclear Reactor Operations.
Credits: 4

ENU 5186 Reactor Fuel Cycles.
Credits: 3

ENU 5195 Nuclear Power Reactors 1.
Credits: 4

APB 5415 Radioisotope Theory and Techniques.
Credits: 5

ENU 5414 Isotope Separation.
Credits: 3

ENU 5615L Nuclear Radiation Detection and Instrumentation.
Credits: 4

ENU 5625 Bionucleonics.
Credits: 3

ENU 5626 Radiation Biology.
Credits: 5

ENU 5629 Radiation Biology Laboratory.
Credits: 2

ENU 6106 Reactor Analysis 1.
Credits: 3

ENU 6107 Reactor Analysis 2.
Credits: 3

ENU 6108 Advanced Reactor Analysis.
Credits: 3

ENU 6117 Neutron Transport Theory.
Credits: 3

ENU 6126 Funadmentals of Reactor Kinetics.
Credits: 4

ENU 6127 Advanced Reactor Kinetics.
Credits: 3

ENU 6147 Reactor Technology 1.
Credits: 4

ENU 6167 Principles of Fast Reactors.
Credits: 3

ENU 6168 Fast Reactor Analysis.
Credits: 3

ENU 6197 Nuclear Power Reactors 2.
Credits: 4

ENU 6210 Computer Programs in the Nuclear Industry.
Credits: 4

ENU 6241 Numerical Methods of Reactor Analysis.
Credits: 4

ENU 6257 Nuclear Data Acquisition and Processing.
Credits: 4

ENU 6307L Radioactive Tracer Instrumentation and Methodology.
Credits: 4

ENU 6516L Nuclear Engineering Laboratory 2.
Credits: 4

ENU 6517L Nuclear Engineering Laboratory 3.
Credits: 4

ENU 6627 Radiological Physics.
Credits: 4

ENU 6636 Fundamental Aspects of Reactor Shielding.
Credits: 3

ENU 6646 Field Problems in Radiation Control.
Credits: 1 to 3

ENU 6656L Medical Radiation Instrumentation and Dosimetry.
Credits: 4

ENU 6657 Nuclear Medicine Instrumentation and Procedure.
Credits: 5

ENU 6701 Gas Lasers and Their Engineering Applications.
Credits: 4

ENU 6707 Direct Energy Conversion.
Credits: 4

ENU 6717 Thermonuclear Fusion.
Credits: 3

ENU 6725 Plasma Spectroscopy.
Credits: 4

ENU 6730 Introduction to Plasmas
Credits: 3

ENU 6731 Plasma Theory
Credits: 4

ENU 6741L Plasma Laboratory
Credits: 4

ENU 6745 Advanced Plasma Theory.
Credits: 4

ENU 6905 Individual Work.
Credits: 1 to 6

ENU 6910 Supervised Research.
Credits: 1 to 5††

ENU 6935 Nuclear Seminar.
Credits: 1

ENU 6936 Special Projects in Nuclear Engineering Sciences.
Credits: 1 to 9

ENU 6937 Special Topics in Nuclear Engineering Sciences.
Credits: 1 to 9

ENU 6940 Supervised Teaching.
Credits: 1 to 5††

ENU 6971 Master's Research.
Credits: 1 to 15††

ENU 7980 Doctoral Research.
Credits: 1 to 15††

NURSING
College of Nursing

INSTRUCTIONAL STAFF 1979-80

Baker, A.S., Acting Dean; Anderson-Shanklin, G.C.; Barton, P.H.; Bodo, T.L.; Chiras, G.L.; Clunn, P.A.; Courage, M.S.; Davis, J.H.; Dougherty, M.C.; Dykes, E.E.; Frauman, S.A.; Godbey, K.L.; Harris, F.S.; Hartsell, M.; Hayes, C.V.; Hilliard, M.E.; Irving, J.A.; Katrina, S.; Keeter, A.C.; Knowles, L.N.; Lambert, L.; Mon, B.E.; Nerney, J.; Nichols, M.A.; O'Brien, D.; Pafford, V.M.; Reilly, C.J.; Rigdon, I.; Schilling, L.S.; Scully, G.L.; Snider, M.J.; Strozier, V.R.; Summey, J.R.; Sypert, N.S.; Taylor, C.E.; Treloar, D.; Turner, J.G.; Visscher, M.; Williams, D.D.; Wilson, J.M.; Wilson, M.E.

STUDENT EVALUATION

At the end of each quarter, the Student Development Committee will review each student's academic and professional performance. The Committee will recommend a plan of action to the Dean.

1) Any grade of "C" or above is passing.
2) A student may repeat up to 13 credit hours of nursing courses. A student with more than 13

credit hours of unsatisfactory work (D) will be dismissed.
3) A student has the right to appeal dismissal to the Student Development Committee within 10 working days after receiving written notification of dismissal.
4) Breaches of professional conduct as outlined in the Florida Nurse Practical Act, and offenses involving moral turpitude, will subject a student to disciplinary action, including, in appropriate cases, dismissal from the College.

The faculty will recommend to the Dean those students who have satisfactorily met College requirements and are eligible for graduation. Superior students may be recommended for graduation with honors. Nomination and selection of students will be made by the Honors/High Honors Sub-Committee. Excellence of different types in varied fields will be considered, such as superior academic work, outstanding student research and other special achievements.

Nursing

NUR 4905 Individual Study. F, W, S, SS.
Credits: 1 to 4; Prereq: 11 hours of upper division nursing courses or consent of instructor.
Individual Study. Qualified students may choose particular nursing care problems for study. Individual study may be extended for additional credit by permission of the college.

NUR 4930 Special Topics. F, W, S, SS.
Credits: 4; Prereq: 11 hours of upper division nursing courses or consent of instructor.
At least one nursing course will be offered each quarter covering a selected topic. Prior to registration, students should contact the Dean's Office, College of Nursing for special topics offered.

NUR 4943C Nursing Practicum. F, W, S, SS.
Credits: 10; All courses in the nursing major are prerequisite to this course.
The student will practice as nurse clinician in approved settings under faculty supervision.

GRADUATE COURSES

NUR 5940C Internship in Professional Nursing.
Credits: 4; Maximum of 12 credits.

NUR 6150C Theory & Practice in Women's & Infants' Nursing 1.
Credits: 4

NUR 6151C Theory & Practice in Women's & Infant's Nursing 2.
Credits: 4

NUR 6152C Theory & Practice in Women's & Infants' Nursing 3.
Credits: 4

NUR 6153C Theory & Practice in Women's & Infant's Nursing 4.
Credits: 4

NUR 6164C Child Health Nursing: Health Maintenance.
Credits: 4

NUR 6165C Child Health Nursing: Acute Care.
Credits: 4

NUR 6166C Child Health Nursing: Long Term Care.
Credits: 4

NUR 6167C Child Health: Developmental Theories and Assessment.
Credits: 4

NUR 6450C Client Assessment for Nurses.
Credits: 4

NUR 6460C Family and Community Health Nursing 1.
Credits: 4

NUR 6461C Family and Community Health Nursing 2.
Credits: 4

NUR 6462C Family and Community Health Nursing 3.
Credits: 4

NUR 6550C Theory and Practice In Adult Health Care 1.
Credits: 4

NUR 6551C Theory and Practice in Adult Health Care 2.
Credits: 4

NUR 6552C Theory and Practice in Adult Health Care 3.
Credits: 4

NUR 6553C Theory and Practice in Adult Health Care 4.
Credits: 4

NUR 6905 Individual Study.
Credits: 1 to 5

NUR 6910 Supervised Research.
Credits: 1 to 5††

NUR 6931 Special Topics in Nursing.
Credits: 2 to 4

NUR 6940 Supervised Teaching.
Credits: 1 to 5††

NUR 6945 Practicum in Nursing.
Credits: 4 to 12

NUR 6948 Residency.
Credits: 4; Maximum of 12 credits.

NUR 6971 Master's Research.
Credits: 1 to 15††

Nursing Universals

DYNAMICS OF HUMAN BEHAVIOR SERIES. NUU 3160C, NUU 3161C, NUU 3162C. These human behavior courses are designed to provide the student with an understanding of the healthy state of man, man's reciprocal relationship to his environment, and mechanisms man uses to cope with himself and his environment.

NUU 3160 Dynamics of Human Behavior 1. F, W, S, SS.
Credits: 4; Prereq: Admission to the College of Nursing. Coreq: NUU 3210C.
Introduction to human behavior with emphasis on the interaction between the individual and his environment.

NUU 3161 Dynamics of Human Behavior 2. F, W, S, SS.
Credits: 5; Prereq: NUU 3160C, NUU 3210C, Coreq: NUU 3220C, NUU 3431. Continuation of the series. Emphasis on human behavior at selective stages of life.

NUU 3162 Dynamics of Human Behavior 3. F, W, S, SS.
Credits: 5; Prereq: NUU 3161C, NUU 3220C; Coreq: NUU 3221C.
Continuation of the series.

FIRST NURSING PROCESS SERIES NUU 3210C, NUU 3220C, NUU 3221C. This series of courses is designed to provide the student with experience utilizing the nursing process in the promotion and maintenance of health for selected individuals and families. Emphasis will be directed toward assessment, planning, implementation and evaluation. Nursing Process will be directed toward the biological, affective and cognitive domains of man.

NUU 3210C Nursing Process 1. F, W, S, SS.
Credits: 6; Prereq: Admission to the College of Nursing. Coreq: NUU 3160C.
Introduction to the nursing process with emphasis on assessment.

NUU 3220C Nursing Process 2. F, W, S, SS.
Credits: 8; Prereq: NUU 3160C, 3210C; Coreq: NUU 3161C, NUU 3431.
Continuation of the series. Emphasis on maintenance of health.

NUU 3221C Nursing Process 3. F, W, S, SS.
Credits: 8; Prereq: NUU 3161C, NUU 3220C; Coreq: NUU 3162C, NUU 3431.
Continuation of the series. Emphasis on interdependent nursing actions to maintain health.

NUU 3431 Professional Socialization 1. F, W, S, SS.
Credits: 2; Prereq: NUU 3160C, 3210C; Coreq: NUU 3161C, NUU 3220C.
Introduction to the role of the professional nurse and the relationship of nursing to the social structure.

HEALTH PROBLEMS SERIES NUU 4500C, NUU 4501C, NUU 4502C. This series deals with the analysis of major national health problems. These courses stress the impact of these problems on individuals, families and society, as well as the impact nursing has upon health problems. Health problems will be explored under several defined categories, such as developmental, environmental and degenerative processes.

NUU 4500 Health Problems 1. F, W, S, SS.
Credits: 5; Prereq: NUU 3162C, NUU 3221C; Coreq: NUU 4225C.
Introduction to and analysis of major health problems.

NUU 4501 Health Problems 2. F, W, S, SS.
Credits: 5; Prereq: NUU 4500C, 4225C; Coreq: NUU 4226C.
Continuation of the series.

NUU 4502 Health Problems 3. F, W, S, SS.
Credits: 5; Prereq: NUU 4501C, NUU 4226C; Coreq: NUU 4227C.
Continuation of the series.

SECOND NURSING PROCESS SERIES. NUU 4225C, NUU 4226C, NUU 4227C. This series of courses is designed to provide the student with experience in utilizing the nursing process in selected health care problems.

NUU 4225C Nursing Process 4. F, W, S, SS.
Credits: 8; Prereq: NUU 3162C, NUU 3221C; Coreq: NUU 4500C.
Course designed to provide the student with experience in utilizing the nursing process in selected health care problems. Emphasis on restoration, rehabilitation and prevention.

NUU 4226C Nursing Process 5. F, W, S, SS.
Credits: 8; Prereq: NUU 4500C, NUU 4225C; Coreq: NUU 4501C.
Continuation of the series.

NUU 4227C Nursing Process 6. F, W, S, SS.
Credits: 8; Prereq: NUU 4501C, NUU 4226C; Coreq: NUU 4502C.
Continuation of the series.

NUU 4432 Professional Socialization 2. F, W, S, SS.
Credits: 3; Prereq: NUU 3431; Coreq: NUR 4943.
This course is designed to assist students in analyzing and synthesizing components of the professional role in nursing.

GRADUATE COURSES

NUU 6165 Life-Span Development: Concepts and Issues.
Credits: 4

NUU 6460 Conceptual Bases of Professional Nursing 1.
Credits: 4

NUU 6462 Nursing Perspectives 1: Analysis of Health Care System.
Credits: 4

††Grading is on S-U basis only

ORNAMENTAL HORTICULTURE

NUU 6463 Nursing Perspectives 2: Administration of Nursing Services.
Credits: 4

NUU 6464 Nursing Perspectives 3: Systems of Nursing Education.
Credits: 4

NUU 6465 Nursing Perspectives 4: Cultural Influences on Health Care.
Credits: 4

NUU 6466 Nursing Perspectives 5: Impact of Health Policy System on Nursing.
Credits: 4

NUU 6467 Nursing Perspectives 6: Economics of Health Care and Delivery of Nursing Services.
Credits: 4

NUU 6468 Nursing Perspectives 7: Profiles of Professional Nursing.
Credits: 4

NUU 6469 Nursing Perspectives 8: Nursing Curricula and Instructional Design.
Credits: 4

NUU 6650 Nursing Research 1.
Credits: 4

NUU 6651 Nursing Research 2.
Credits: 4

Nursing Support

NUS 6215 Physiological Bases of Professional Nursing.
Credits: 4

OCCUPATIONAL THERAPY
College of Health Related Professions

INSTRUCTIONAL STAFF 1979-80

Llorens, L.A., Chairman; Adams, S.P.; Burris, B.B; Gill, A.A.; McDonnell, M.E.; Menks, F.A.; Samuelson, L.; Shoemyen, C.W.; Sieg, K.W.; Slaymaker, C.J.

See also course offerings under Health Related Professions (HRP).

OTH 2000 Introduction to Occupational Therapy. F, W.
Credits: 2; Prereq: HSC 1001.
History, current practice and trends in occupational therapy. Types of employment in various health care systems.

OTH 3010 Introduction to Clinical Procedures. F.
Credits: 2; Prereq: Admission to Occupational Therapy Curriculum.
Basic skills required for occupational therapy practice.

OTH 3110C Therapeutic Skills. F, W, S, SS.
Credits: 3 to 12; Prereq. or Coreq: OTH 2000 or consent of instructor.
Principles of hand and machine activities as applied to occupational therapy programs. Occupational Therapy majors require minimum of 9 credits.

OTH 3200C Applied Human Development 1. F.
Credits: 4; Prereq: OTH 2000.
Application to occupational therapy of principles of human growth and development from infancy through adolescence.

OTH 3201 Applied Human Development 2. W.
Credits: 4; Prereq: OTH 2000 and OTH 3200C.
Application to occupational therapy of principles of human growth and development from young adulthood through senescence.

††Grading is on S-U basis only.

OTH 4320C Problems of Psychosocial Dysfunction 1. S.
Credits: 4; Prereq: OTH 3200C, HSC 4550C.
First part of the sequence. Occupational therapy evaluation and treatment of patients with psychosocial function.

OTH 4321C Problems of Psychosocial Dysfunction 2. F.
Credits: 4; Prereq: OTH 4320C.
Continuation of the sequence.

OTH 4412C Musculoskeletal Anatomy. F.
Credits: 5
Lectures and intensive-laboratory study of the human musculoskeletal system with emphasis on a functional understanding of muscles.

OTH 4421C Problems of Physical Dysfunction 1. S.
Credits: 4; Prereq: HSC 4540C, 4522C.
First part of the sequence. Occupational therapy evaluation and treatment of patients with neurological, orthopedic, medical and surgical disorders.

OTH 4422C Problems of Physical Dysfunction 2. F.
Credits: 4; Prereq: OTH 4421C.
Continuation of the sequence.

OTH 4500 Pediatric Disorders. W.
Credits: 4; Prereq: OTH 3200C and OTH 3201C.
Occupational therapy evaluation and treatment of childhood disorders.

OTH 4810 Practicum 1. W.
Credits: 2††; Coreq: OTH 3201C, HSC 4550C.
First part of the sequence OTH 4810-4811-4812. Designed to parallel academic course work. Supervised experience in local clinical settings.

OTH 4811 Practicum 2. S.
Credits: 2††; Prereq: OTH 4810; Coreq: OTH 4320C, OTH 4421C.
Continuation of the sequence.

OTH 4812 Practicum 3. F.
Credits: 2††; Prereq: OTH 4811; Coreq: OTH 4321C, OTH 4422C.
Continuation of the sequence.

OTH 4845 Internship 1. S.
Credits: 12; Prereq: Permission of Department Chairman.
First part of the sequence 4845-4846. Supervised clinical experience in facilities approved by the department.

OTH 4846 Internship 2. SS.
Credits: 12; Prereq: OTH 4845.
Continuation of sequence.

OTH 4935 Occupational Therapy Seminar. W.
Credits: 4; Prereq: Senior classification.
Selected readings and discussions of current developments in the field of occupational therapy. Individual investigations and reports on assigned topics.

GRADUATE COURSES

OTH 6418 Theories of Practice in Occupational Therapy.
Credits: 4

OTH 6419 Occupational Therapy Management.
Credits: 4

OTH 6539C Seminar: Occupational Therapy Practice I.
Credits: 4

OTH 6549 Seminar: Occupational Therapy Practice II.
Credits: 4

OTH 6770 Research Methods in Occupational Therapy.
Credits: 3

OTH 6780 Proseminar.
Credits: 3

OTH 6827L Advanced Specialty Practicum.
Credits: 3 to 5.

OTH 6861L Specialty Residency.
Credits: 3 to 15.

OTH 6905 Individual Work.
Credits: 1 to 15.

ORNAMENTAL HORTICULTURE
College of Agriculture

INSTRUCTIONAL STAFF 1979-80

Carpenter, W.J., Chairman; Barrett, J.E.; Barrick, W.E.; Conover, C.A.; Dehgan, B.; Dudeck, A.E.; Johnson, C.R.; Joiner, J.N.; McConnell, D.B.; Nell, T.A.; Sheehan, M.R.; Sheehan, T.J.

ORH 3231 Grounds Maintenance. S.
Credits: 4; Prereq: ORH 3513.
Basic principles of landscape horticulture are reviewed in lecture sessions and design plans and real situations are analyzed in the laboratory. Both preventive and normal maintenance measures are considered. This course provides a comprehensive survey of landscape maintenance problems with emphasis on institutional and public areas for students interested in landscape design. Students enrolling in this class will be expected to attend two all-day Saturday field trips.

ORH 3513C Ornamental Plant Identification I. F, SS.
Credits: 4; Prereq: BSC 2010C or permission of instructor.
Identification, growth characteristics, culture and use of common landscape plants. Materials include basic trees, palms, shrubs, vines and ground covers utilized in general landscape beautification.

ORH 3514C Ornamental Plant Identification II. W.
Credits: 4; Prereq: ORH 3513.
Identification, growth characteristics, culture and use of less common landscape plants. Materials include trees, palms, shrubs, vines and ground covers utilized in landscape beautification.

ORH 3516 Herbaceous and Exotic Plant Materials. S.
Credits: 4; Prereq: ORH 3513 or permission of the instructor.
Herbaceous, semi-herbaceous, exotic and woody plant materials suitable for specialized landscape and interior decorative purposes. Materials include annuals, perennials, foliage plants and succulents.

ORH 3534 Relationships of Ornamental Plants to the Urban Environment.
W.
Credits: 3
Provides basic understanding of the environmental situations influencing plants in urban areas.

ORH 3611 Retail Florist Shop Management. S.
Credits: 4; No Prerequisites.
A basic course in the operations of a retail florist shop, including management, shop design and layout, psychology of selling, post harvest handling of flowers and the principles of artistic design.

ORH 3731 Biological Illustrations. F.
Credits: 4; No prerequisites.
A basic course in the preparation of scientific illustration, including uses of illustration, materials, equipment, layout, design, and preparing sketches to scale. Techniques covered include pen and ink, water color, scratch board, and carbon dust.

ORH 3803 Introduction to the Interior Use of Plants. W. (SS odd years)
Credits: 3
An introductory coverage of the function and use of plants and cut flowers in the home as well as factors influencing growth and development of

house plants in containers and planters. (Not for major credit of students in Ornamental Horticulture and Landscape Architecture.)

ORH 3813 Introduction to Residential Exterior Horticulture. F. (SS even years)
Credits: 3
An introductory coverage of the factors involved in (a) growth and development of landscape plants, (b) selection and adaptation of basic landscape plants and (c) principles involved in home landscape planning and maintenance. (Not for major credit of students in Ornamental Horticulture or Landscape Architecture.)

ORH 3815C Introduction to Landscape Horticulture. F.
Credits: 4; Prereq: ORH 3513C, ORH 3514C, ORH 3516C; strongly advised.
A basic course in the study of residential landscapes including preparation, evaluation and implementation of simple landscape plans. Emphasis will be placed on the use of ornamental plants for functional and aesthetic improvement of the home environments.

ORH 4221 Turfgrass Culture. S.
Credits: 4; Prereq: BOT 3503 and BOT 3503L, SOS 3022C, and ORH 4411 or with permission of instructor.
Size and scope of turfgrass industry and basic aspects of adaptation, establishment, and maintenance of turfgrasses.

ORH 4221L Turfgrass Culture Laboratory. S.
Credits: 2
A laboratory oriented treatise of turfgrasses involving their identification, establishment, maintenance, and renovation requiring indepth student participation.

ORH 4242 Arboriculture. F.
Credits: 3; Prereq: ORH 4411, SOS 3022 and ORH 3513 or with permission of instructor.
Principles and practices in establishment and maintenance of ornamental shrubs and trees with emphasis on important growth and development factors.

ORH 4255 Principles of Nursery Operations. S.
Credits: 3; Prereq: PLS 3221, PLS 3221L and ORH 4411 or with permission of instructor.
Principles of establishing and developing woody ornamental nursery. Culture and marketing of container grown woody ornamentals are considered.

ORH 4255L Nursery Operations Laboratory. S.
Credits: 1; Prereq. or Coreq: ORH 4255.
Practical problems in developing nursery operations and culture of container woody ornamentals.

ORH 4263 Production of Floricultural Crops. W.
Credits: 4; Prereq: ORH 4411.
Basic concepts of commercial greenhouse construction, maintenance and environmental control techniques are discussed. Emphasis will be placed on the production, handling and marketing of major floriculture crops.

ORH 4263L Floricultural Crops Production Laboratory I. W.
Credits: 1; Prereq: ORH 4411, Coreq: ORH 4263.
A two-part laboratory enabling floricutlure production majors to become familiar with flower crop production and handling. Students registering for ORH 4263L are required to take 4264L.

ORH 4264L Floricultural Crop Production Laboratory II. S.
Credits: 1; Prereq: ORH 4263L
The second half of ORH 4263L. (These courses must be taken in numerical sequence.)

ORH 4275C Commercial Production of Foliage Plants. F.
Credits: 4; Prereq: ORH 4411 or permission of the instructor.
Principles and practices involved in production, handling and marketing of foliage plants.

ORH 4280 Orchidology. W.
Credits: 4; Prereq: ORH 4411.
The principles and practices involved in the production of orchid plants and flowers, including nomenclature, breeding, seed culture, harvesting, and handling.

ORH 4411 Physiological Aspects of Ornamental Plant Production. F, S.
Credits: 4; Prereq: BOT 3503, BOT 3503L, PLS 2031.
Physiological and environmental factors affecting growth and yield of ornamental crops. Greenhouse and field production are both considered.

ORH 4905 Special Topics and Independent Study on Ornamental Horticulture. F, W, S, SS.
Credits: 1 to 8
Four sections of topics for independent study are offered: A — Research investigation including review of literature, drafting of a proposal, conduct of an experiment, collection of data, summation and interpretation of results and preparation of a report. B — Library or Studio Assignment, including analysis of several sources of information on a specific topic with a written evaluation and list of conclusions prepared. C — Advanced undergraduate research consisting of a continuation of experience in research with a specific plant commodity and conducted as in section A.

ORH 4931 Ornamental Horticulture Seminar. F, W, S.
Credits: 1
Selected reading, reports and discussion of current literature on ornamental horticultural topics. Emphasis is placed on various means of communication as an aid in understanding and evaluating technical information.

ORH 4941 Full Time Practical Work Experience in Ornamental Horticulture. F, W, S. SS.
Credits: 1 to 4; S-U Grade only; Prereq: Prior arrangement with adviser, approval of Dept. Chairman and Dean.

PEST MANAGEMENT AND PLANT PROTECTION
College of Agriculture, Special Program

The crop-science departments and the supporting disciplines of Entomology-Nematology, Weed Science (Plant Sciences), Plant Pathology and the School of Forest Resources and Conservation offer the following general and cross-departmental courses in Pest Management and Plant Protection.

PMA 3010 Fundamentals of Plant-Pest Management. F.
Credits: 3
Principles of the science that treats the subject of controlling plant pests through integrated systems of management.

PMA 3323C Pesticide Application.
Credits: 3
Equipment and methods used to apply pesticides in agriculture; techniques used to avoid misapplication, a common cause of pesticide failures, is emphasized.

PMA 3931 Seminar in Basic Plant-Pest Management. W, S.
Credits: 2; Prereq: PMA 3010.
Group study and discussion of the fundamental concepts that relate to Plant-Pest Management as a science.

PMA 3941 Internship in Plant-Pest Management. F, W, S, SS.
Credits: 3 to 4; Prereq: PMA 3010.
On-the-job training as paid, full-time apprentices to pest-management professionals for a minimum of 8 weeks. Enrollment is restricted to students specializing in the program of Pest Management and Plant Protection.

PMA 4401C Understanding and Implementing Pest Management Strategies in Agricultural Systems. W.
Credits: 5
Emphasis on fundamental similarities/differences in pest management across a broad spectrum of specific commodities. Focus on relevant methodologies for gathering and understanding biological/physical data for purposes of making management decisions for single pests and pest complexes. Various methods of information-delivery are studied. Case history studies and PLATO exercises are used to focus on relevant "real world" situations.

PHARMACOLOGY
College of Medicine

INSTRUCTIONAL STAFF 1979-80

Neims, A.H., Chairman; Garg, L.C., Coordinator; Baker, S.P.; Carlson, G.M.; Chapman, S.K.; Childers, S.R.; Finger, K.; James, M.; Kadzielawa, C.; Kem, W.R.; Leibman K.C.; Maren, T.H.; Muther, T.F.; Prichard, J.B.; Ross, W.; Shiverick, K.T.; Silverman, D.N.; Travis, D.M.; Vogh, B.P.

PHA 4516 Pharmacology 1. W.
Credits: 5; Prereq: PHA 3500, PHA 3051 or permission of the Co-ordinator.
Principles of Pharmacology based on conjoint discussion of normal and abnormal physiologic and biochemical mechanisms. Special emphasis on drug distribution, metabolism, acid-base balance, digestive and excretory mechanisms, chemotherapy.

PHA 4517 Pharmacology 2. S.
Credits: 5; Prereq: PHA 4516.
Continuation of PHA 4S16 with special emphasis on nervous, and cardiovascular function.

PHA 4904 Pharmacology Research, F, W, S, SS.
Credits: 3; Prereq: B-average and permission of the Co-ordinator.
Laboratory or literature investigations of problems of current interest.

GRADUATE COURSES

BMS 5465 Advanced Medical Pharmacology.
Credits: 6

BMS 6400C Introduction to Pharmacology.
Credits: 5

BMS 6420 Seminar in Pharmacology.
Credit: 1

BMS 6463 Theoretical Pharmacology.
Credits: 5

BMS 6466 Physiological Pharmacology.
Credits: 5

BMS 6468 Chemical Pharmacology.
Credits: 5

BMS 7421 Research Methods in Pharmacology I.
Credit: 1

BMS 7422 Research Methods in Pharmacology II.
Credit: 1

BMS 7423 Topics in Pharmacology.
Credits: 1 to 4

BMS 7467 Physiology and Pharmacology of Excitable Membranes.
Credits: 3

PHARMACY
College of Pharmacy

INSTRUCTIONAL STAFF 1979-80

Schwartz, M.A., Chairman; Angorn, R.A., Associate Chairman; Field, F.P., Associate Chairman; Perrin, J.H., Associate Chairman; Stewart, R.B., Associate Chairman; Araujo, O.E.; Baumgartner, T.; Curtis, R.L.; Dame, F.M.; Doering, P.L.; Duncan, C.H.; Finger, K.F.; Forgnone, M.M.; Garrett, E.R.; Harrison, W.; House, M.L.; Katovich, M.J.; Kri-

scher, J.; Lee, C.S.; Lemberger, M.A.; Lopez, L.M.; May, F.E.; Munyer, T.O.; McCormick, W.C.; McKenzie, M.W.; Pevonka, M.P.; Quinn, S.L.; Robinson, J.D.; Rowe, K.T.; Russell, W.L.; Simpkins, J.W.; Torosian, G.; Vilallonga, F.; Yost, R.L.

Pharmacy

PHA 3020 Microbiology. S.
Credits: 4; Prereq: Pharmacy Classification.
Basic principles of immunology and microbiology with a medical orientation. Lectures, laboratory demonstrations and discussions.

PHA 3110C Pharmaceutics I. W.
Credits: 5; Prereq: Pharmacy Classification.
The first course of the sequence PHA 3110C-3111C. The course sequence covers the measurement, description and prediction of physical and chemical parameters used in the systems and operations necessary for pharmaceutical product development and dosage forms. Stability and pharmacokinetics, properties of dosage forms, and pharmaceutical adjuncts are also discussed.

PHA 3111C Pharmaceutics 2. S.
Credits: 5; Prereq: PHA 3110C.
The second course of the sequence PHA 3110C-3111C.

PHA 3500C Applied Human Anatomy-Physiology 1. W.
Credits: 5; Prereq: Pharmacy classification.
Gross anatomy of the important organ systems of the human and mammalian.

PHA 3501C Applied Human Anatomy-Physiology 2. S.
Credits: 5; Prereq: PHA 3500C.
Microscopic study of the important tissues and organs of the human and mammalian.

PHA 3630C Externship 1. F, S.
Credits: 3; Prereq: 3PH Classification.
Introduction to the professional practice components of ambulatory pharmacy practice. Competencies essential to comprehensive pharmaceutical care are identified and discussed. Medications most frequently dispensed in the ambulatory setting are studied.

PHA 3631C Externship 2. F, W.
Credits: 3; Prereq: PHA 3630C.
Introduction to the basic practice competencies, operational and programmatic concepts associated with institutional pharmacy. Medications primarily dispensed for inpatients and interpretive information regarding common laboratory tests are discussed.

PHA 3710 Pharmacy Calculations. F.
Credits: 1; Prereq: Pharmacy Classification.
Calculation of doses, percentage preparations, dilution and concentration, and isotonic and electrolyte solutions are undertaken.

PHA 4103C Pharmaceutics-Dispensing. W.
Credits: 4; Prereq: PHA 4120.
Physical and chemical problems associated with the dispensing of prescribed medications, bioavailability, bio-equivalence and adjustment of dosage regimens associated with diseased states, age and potential drug interactions.

PHA 4106C Injection Dosage Forms and Other Sterile Products. W.
Credits: 5; Prereq: MCB 3020 and last year professional student.
Fundamentals of preparing, processing and administration of injection dosage forms and other sterile products. Consideration of equipment, facilities, vehicles, containers, closures, etc. employed for such products.

PHA 4120 Pharmaceutics-Biopharmaceutics. W.
Credits: 4; Prereq: PHA 3111C. Introductory Biopharmaceutics.
An introduction to the study of the time course of drugs in the body with reference to their absorption, distribution, metabolism and elimination. Consideration is given to rate processes, the physiochemical influences on ADME and formulation factors involved in drug delivery and availability.

PHA 4140C Manufacturing Pharmacy. F.
Credits: 4; Prereq: PHA 3111C.
Source of raw materials, production costs, manufacturing procedures, and preparation of various pharmaceutical dosage forms on a pilot-plant scale.

PHA 4150 Hospital Pharmacy. W.
Credits: 3; Prereq: PHA 3110C.
An introduction to the practice of pharmacy in hospitals.

PHA 4202 Pharmacy Accounting. F.
Credits: 4; Prereq: 5PH Classification.
The first part of the course PHA 4202-4211. Principles, accounting terminology, forms, and content of financial statements used by pharmacy organizations are studied.

PHA 4211 Pharmacy Management. W, S.
Credits: 5; Prereq: 5PH Classification.
The second part of the course PHA 4202-4211. A study of the principles and problems of planning, organizing and controlling a community pharmacy.

PHA 4232 Pharmaceutical Law. F.
Credits: 5; Prereq: Pharmacy Classification.
A study of the federal, state, and local laws and regulations relating to all aspects of the profession of pharmacy.

PHA 4506 Body Fluids and Electrolytes. S.
Credits: 4; Prereq: PHA 4517.
Pharmacological treatment of topics related to body fluids, electrolytes, acid-base blance, ion exchange resins, carbonic anhydrase inhibitors, plasma extenders, and parenteral alimentation.

PHA 4560 Pathophysiology-Disease Processes. F.
Credits: 4; Prereq: PHA 3501C.
Introduction to disease processes.

PHA 4600 Therapeutic Principles and Drug Therapy. F, S.
Credits: 4; Prereq: 4NR — 2 quarters of clinical experience in hospital or 4PH classification.
An overview for nursing and pharmacy students for the study of pharmalogical and therapeutic principles of drug therapy. Basic mechanisms of drug action, adverse effects, contraindications, dosages, interactions, and pharmacotherapeutic indications are stressed.

PHA 4602 Therapeutics 1. F, S.
Credits: 3; Prereq: 5PH classification.
This course provides a basic introduction to the therapy of common disease states. The physiologic, economic, and social impact of disease is presented. Students will receive information on pathophysiology of common disease states, current therapeutic measures to treat disease and principles of monitoring drug therapy in patients.

PHA 4603 Therapeutics 2. S.
Credits: 5; Prereq: 4PH Classification, PHA 4602.
The second course of the sequence PHA 4602, 4603.

PHA 4632C Practicum Clerkship. F, S, SS.
Credits: 15; Prereq: PHA 4603.
This course provides the pharmacy student supervised exposure and involvement in patient care through monitoring patient drug therapy; obtaining patient drug histories and interviews; professional interaction with patients, physicians, nurses, and allied health practitioners; and participation in physician rounds.

PHA 4750 Public Health and Communicable Diseases. W.
Credits: 4; Prereq: MCB 3020 and BCH 4203.
Prevalent community infectious diseases such as those caused by bacteria, viruses, rickettsia, protozoa, and fungi. Allergy and immunity, are discussed.

PHA 4760 Dermatological Drug Products and Their Uses. F.
Credits: 3; Prereq: PHA 3111C, MCB 3020.
A study of dermatological drugs of choice in the treatment of the various abnormal skin conditions. The importance of the role of the pharmacist in this area is emphasized and discussed.

PHA 4769 Non-Prescription Products. W, S.
Credits: 3; Prereq: PHA 4437.
An evaluative study of non-prescription drugs with emphasis on formulation problems, chemical structure relationships, clinical and toxicity implications, and possible interactions.

PHA 4821 Clinical Radiopharmacy. W.
Credits: 4; Prereq: Pharmacy classification or permission.
Basic physical phenomena of radiation and how radiopharmaceuticals are used in diagnosing disease states. Correlation of the pathophysiology of disease and disease states of the organ systems.

PHA 4905 Problems in Pharmacy. F, W, S, SS.
Credits: 1 to 3††; Prereq: PHA 3111C.
Laboratory and/or literature investigations of problems in pharmacy of current interest. May be repeated for a maximum of 6 credits with approval of departmental chairman.

PHA 4930 Pharmacy Seminar. F, W, S.
Credits: 2††; Prereq: 5PH Classification.
Literature investigations and reports by students on problems in pharmacy of current interest.

GRADUATE COURSES

PHA 5121 Clinical Pharmacokinetics. W.
Credits: 4; Prereq: PHA 4120 or by special arrangement.

PHA 5508 Principles of Endocrinology. SS.
Credits: 5; Prereq: A course in Physiology.

PHA 5605 Advanced Topics in Clinical Pharmacy.
Credits: 2; Maximum of 6 credits.

PHA 5609 Pediatric Pharmacy. W.
Credits: 3; Prereq: 5PH.

PHA 6107C Parenterals.
Credits: 5

PHA 6115 Equilibria, Complexations and Interactions of Drugs.
Credits: 5

PHA 6116 Stability and Kinetics of Drugs.
Credits: 5

PHA 6125 Pharmacokinetics and Biopharmaceutics.
Credits: 5

PHA 6146C Pharmaceutical Equipment and Machinery.
Credits: 4

PHA 6147C Pharmaceutical Machinery and Product Formulation.
Credits: 4

PHA 6148C Pharmaceutical Product Formulation.
Credits: 4

PHA 6155 Hospital Pharmacy Seminar.
Credits: 1; Maximum of 3 credits.

PHA 6225 Hospital Pharmacy Administration.
Credits: 3

PHA 6235 Advanced Pharmaceutical Law.
Credits: 5

PHA 6236 Health Sciences Liability Law.
Credits: 3

PHA 6237 Pharmaceutical Law Seminar.
Credits: 1

PHA 6606 Clinical Pharmacy.
Credits: 4

††Grading is on S-U basis only.

PHA 6607 Therapeutics in Clinical Pharmacy 1.
Credits: 3

PHA 6608 Therapeutics in Clinical Pharmacy 2.
Credits: 4

PHA 6790 Drug Information.
Credits: 4

PHA 6905L Research Methods in Pharmaceutical Sciences.
Credits: 2 to 6

PHA 6910 Supervised Research.
Credits: 1 to 5††

PHA 6935 Selected Topics in Pharmacy.
Credits: 3

PHA 6936 Advanced Topics in Pharmaceutical Sciences.
Credits: 1 to 2

PHA 6937 Topics in Pharmaceutical Administration.
Credits: 3

PHA 6940 Supervised Teaching.
Credits: 1 to 5††

PHA 6971 Master's Research.
Credits: 1 to 15††

PHA 7980 Doctoral Research.
Credits: 1 to 15††

DOCTOR OF PHARMACY PROGRAM (Pharm.D.)

PHA 5601 Individualizing Dosage Regimens.
Credits: 4

PHA 5605 Advanced Topics in Clinical Pharmacy. F, W, S, SS.
Credits: 2; Maximum of 6 credits; Prereq: 1PD Classification.
Recent literature and new drug entities relevant to the practice of clinical pharmacy.

PHA 5680 Advanced Clinical Pharmacy Clerkship-Internal Medicine. F, W, S, SS.
Credits: 3; must be repeated for a minimum of 6 credits. Prereq: Successful completion of the didactic phase of the Advanced Clinical Pharmacy Program and recommendation of the student's supervisory committee.
The student will be assigned to Internal Medicine service for 8 weeks. Activities include participation in drug therapy monitoring, drug therapy selection, patient interviewing, and discharge planning.

PHA 5681 Advanced Clinical Pharmacy Clerkship-Pediatrics. F, W, S, SS.
Credits: 3; Must be repeated for a minimum of 6 credits. Prereq: Successful completion of the didactic phase of the Advanced Clinical Pharmacy Program and recommendation of the student's supervisory committee.
The student will be assigned to Pediatric Services for 8 weeks. Activities include participation in drug therapy monitoring, drug therapy selection, patient interviewing, and discharge planning.

PHA 5682 Advanced Clinical Pharmacy Clerkship-Psychiatry. F, W, S, SS.
Credits: 4; Prereq: Successful completion of the didactic phase of the Advanced Clinical Pharmacy Program and recommendation of the student's supervisory committee.
The student will be assigned to an inpatient Psychiatry Service for 4 weeks. Activities include participation in drug therapy monitoring, drug therapy selection, patient interviewing, and discharge planning.

PHA 5683 Advanced Clinical Pharmacy Clerkship Chronic Care Ambulatory Medicine. F, W, S, SS.
Credits: 3; Must be repeated for a minimum of 6 credits. Prereq: Successful completion of the didactic phase of the Advanced Clinical Pharmacy Program and recommendation of the student's supervisory committee.
Activities include participation in drug therapy monitoring, drug therapy selection, patient interviewing, and discharge planning in the unique settings provided.

PHA 5684 Advanced Clinical Pharmacy Clerkship. Electives. F, W, S, SS.
Credits: 1 to 10; Prereq: Successful completion of the didactic phase of the Advanced Clinical Pharmacy Program and recommendation of the student's supervisory committee.
The student will actively participate in drug therapy monitoring, drug therapy selection, patient interviewing, and discharge planning on a clinical specialty service designated as an elective rotation. A minimum of 14 credits of elective clinical clerkship credits are required for the Advanced Clinical Pharmacy Program.

PHA 5685 Advanced Clinical Pharmacy Clerkship —Drug Information. F, W, S, SS.
Credits: 4; Prereq: Approval of student's supervisory committee.
The student will be assigned to the Drug Information and Pharmacy Resource Center (DIPRC) in the College of Pharmacy for a 4-week period. Participating functions will comprise response to inquiries received by DIPRC, writing Pharmacy and Therapeutic Committee reports, supervision of undergraduate students in DIPRC, and assist in preparation of the DIPRC newsletter.

PHILOSOPHY
College of Liberal Arts and Sciences
INSTRUCTIONAL STAFF 1979-80

D'Amico, R., Chairman; Auxter, T.P.; Elliott, H.H.; Haring, E.S.; Haynes, R.P.; Holly, M.G.; Lewis, A.L.; Schutte, O.M.; Simon, T.W.; Standley, G.B.; Zeman, J.J.; Emeritus: Mehlberg, H.

The major: An undergraduate majoring in philosophy takes a minimum of 36 hours from the courses listed below. Normally at least 12 hours will be at the 4000 level. No specific courses are required. The Department strongly recommends early and frequent consultation with its faculty advisers to assure each student a coherent program meeting his or her interests and career plans. For instance, somewhat different courses are recommended respectively to pre-law students, to those with interests in history and literature, and to those who may continue in philosophy.

Courses: There are no prerequisites for 2000 and 3000 level courses. Work in the latter is more demanding but not beyond able underclassmen. Enrollment in a 4000 level course requires the permission of the instructor.

Since the descriptions below are general, and not all courses are offered every year, more precise information about offerings is posted on the bulletin board outside Room 240A, ASB, the Department office. Different sections under a given course number usually do not have an identical content, so the board must be read before registration.

Honors: There are three requirements for honors. A student must (a) have and maintain a 3.5 average in philosophy, (b) elect 12 hours of 4000 level course work and (c) in addition take 4 hours of PHI 4912, the Honors Seminar. Application must be made to the Department at least one quarter before graduation and preferably two quarters.

Philosophers and Schools

PHP 3765 Marx W.
Credits: 4
An introduction to Marx's social and political philosophy through selected readings in Marx and later theorists, e.g., Lenin, Luckacs, Gramsci.

PHP 3780 Meaning, Value and Action. F, SS.
Credits: 4
A study of problems arising in the development of societies and individuals, involving relationships between knowledge and human values. Readings usually in Peirce, James, Dewey and contemporary authors. This course is an elective in American Studies.

PHP 3786 Topics in Existentialism. S, SS.
Credits: 4; No prereq.
A study of selected topics in the religious and philosophical writings of the existentialist thinkers.

PHP 4000 Plato. W.
Credits: 4
An intensive study of at least one major dialogue together with related writings.

PHP 4010 Aristotle. S.
Credits: 4
An advanced introduction to central theories and themes.

PHP 4410 Kant. W.
Credits: 4
A study of one or more of Kant's major philosophical works.

PHP 4782 Phenomenology 2. W.
Credits: 4
A study of the major writings of one or more of the phenomenologists.

PHP 4784 Analytic Philosophy. W.
Credits: 4
The study of one or more major works or themes in recent British-American philosophy.

All PHP courses listed below may be repeated with change of content up to a maximum of 12 credits in the case of 4 credit courses and up to a maximum of 15 credits in the case of 5 credit courses.

GRADUATE COURSES

PHP 5005 Studies in Plato. W.
Credits: 4

PHP 5015 Studies in Aristotle. S.
Credits: 4

PHP 5415 Studies in Kant. W.
Credits: 4

PHP 5781 Studies in Pragmatism. W.
Credits: 5

PHP 5785 Studies in Analytic Philosophy. W.
Credits: 4

PHP 6419 Seminar in Kant.
Credits: 5

PHP 6783 Seminar in Phenomenology.
Credits: 5

PHP 6785 Seminar in Analytic Philosophy.
Credits: 5

Philosophy

PHI 2010 Introduction to Philosophy. F, W, S, SS.
Credits: 4
A sampling of philosophical problems and methods through the study of traditional and/or contemporary works selected by each instructor.

PHI 2015 Honors Introduction to Philosophy. F, W, S.
Credits: 4
A sampling of philosophical problems and methods through the study of traditional and/or contemporary works selected by each instructor.

††Grading is on S-U basis only.

Descriptions

PHILOSOPHY

PHI 2100 Logic. F, W, S, SS.
Credits: 4
An introduction to ways of analyzing arguments and a study of some of the elementary tools of logic. Some portions of the course may be adapted on request, to specific fields, e.g., pre-law, business.

PHI 2403 Science, Myth and Value. F.
Credits: 4
An approach to the sciences contrasting them with proto-scientific and non-standard scientific modes of thought, examining the roles of science and myth in society, and assessing the relation between science and technology.

PHI 2630 Contemporary Moral Issues. F, W, S.
Credits: 4
An application of philosophical analysis to current moral issues.

PHI 2930 Special Topics. F, W, S.
Credits: 2 to 4
An occasional course offered according to the current interest of the faculty. May be repeated with change of content up to a maximum of 8 credits.

PHI 3130 Symbolic Logic. F, W, S, SS.
Credits: 5
A systematic study of forms of deduction by the technique of truth-functional analysis and quantification.

PHI 3300 Theory of Knowledge. F.
Credits: 4
Exploration of basic issues: e.g., the nature and cognitive role of perception; the definition of truth; what, if anything, can be certainly known.

PHI 3320 Philosophy of Mind. W.
Credits: 4
An examination of theories of mind and of problems such as the nature of the self, the relation of the mental to the physical, and minds vs. machines. Readings may be taken from sources in psychology and neurophysiology as well as philosophy. May be repeated with change of content up to a maximum of 8 credits.

PHI 3400 Philosophy of Science. W.
Credits: 4
A basic introduction to central contemporary issues, e.g., the nature of laws, the logic of discovery and the relationships between various sciences. Emphasis on the physical sciences. This course is a sequel to PHI 2403 but does not presuppose it.

PHI 3420 Philosophy of Social Science. S.
Credits: 4
A study of such problematic topics as the scientific status of social science, the relationships between individuals and groups and the nature of cultural relativity.

PHI 3451 Philosophy and Biology. S.
Credits: 4
Intensive study of problems presented by developments in the biological sciences and medicine. Topics include reductionism vs. holism, and theory-construction, as well as more general issues such as humans' relation to their environment. No prerequisite, but PHI 3400 is recommended.

PHI 3650 Moral Philosophy. F.
Credits: 5
Analysis and criticism of various ideals of human excellence, and standards for making moral decisions.

PHI 3700 Philosophy of Religion. W.
Credits: 4
A philosophical examination of religious thought and experience.

PHI 3800 Aesthetics. S.
Credits: 5
An approach to the fine arts via questions about the nature of art, creativity, aesthetic experience and critical judgments.

PHI 3930 Special Topics. F, W, S.
Credits: 2 to 4
An occasional course offered according to the current interests of the faculty. Repeatable with change in content up to 8 credits.

PHI 4131 Advanced Symbolic Logic. W.
Credits: 5; Prereq: PHI 3130.
Deductive techniques. A consideration of formal systems and related topics. May be repeated with a change in content up to a maximum of 15 credits.

PHI 4227 Philosophy and Linguistics. S.
Credits: 4
Topics include methodological approaches to language and philosophical issues in linguistics.

PHI 4341 Phenomenology 1. F.
Credits: 4
The theory and practice of phenomenology as a philosophical method.

PHI 4360 Theory of Knowledge. F.
Credits: 4
Examination of positions and issues, usually with a contemporary emphasis.

PHI 4404 Issues in Philosophy of Science. S.
Credits: 5
Examination of contrasting positions respecting physical and/or biological and/or social science.

PHI 4540 Metaphysics. F.
Credits: 4
Examination of positions and issues, usually with a contemporary emphasis.

PHI 4633 Ethical Issues in Medicine. W.
Credits: 4
An exploration in depth of problems in medical practice and research which have an ethical component.

PHI 4680 Theory of Value. W.
Credits: 4
Examination of positions and issues, usually with a contemporary emphasis.

PHI 4764 Philosophy of Religion. S.
Credits: 4
Examination of positions and issues, usually with a contemporary emphasis.

PHI 4801 Philosophy of Art. S.
Credits: 4
The exploration of one or more issues concerning the function of art, the role of artists and the relation of different arts to one another.

PHI 4905 Individual Work. F, W, S, SS.
Credits: 1 to 4; Prereq: 12 hours of work in philosophy and permission of the Department.

PHI 4912 Honors Seminar. F, W, S, SS.
Credits: 2 to 4
Open to qualified philosophy majors, upon application to the Department.

PHI 4930 Advanced Undergraduate Special Topics. F, W, S, SS.
Credits: 1 to 4
An occasional course offered according to the current interests of the faculty. May be repeated with change in content up to a maximum of 12 credits.

All PHI courses listed below may be repeated with change of content up to a maximum of 12 credits in the case of 4 credit courses and up to a maximum of 15 credits in the case of 5 credit courses.

GRADUATE COURSES

PHI 5136 Graduate Symbolic Logic. W.
Credits: 5; Prereq: PHI 3130

PHI 5225 Studies in Philosophy and Linguistics. S.
Credits: 4

PHI 5365 Studies in Theory of Knowledge. F.
Credits: 4

PHI 5405 Studies in Issues in Philosophy of Science. S.
Credits: 5

PHI 5505 Studies in Metaphysics. F.
Credits: 4

PHI 5685 Studies in Theory of Value. W.
Credits: 4

PHI 5705 Studies in the Philosophy of Religion. S.
Credits: 4

PHI 5807 Studies in the Philosophy of Art. S.
Credits: 4

PHI 5905 Individual Work. F, W, S, SS.
Credits: 1 to 5

PHI 5934 Graduate Special Topics. F, W, S, SS.
Credits: 1 to 4

PHI 6105 Seminar in Logic.
Credits: 5

PHI 6325 Seminar in the Philosophy of Mind.
Credits: 5

PHI 6426 Seminar in Epistemology and Social Theory.
Credits: 5

PHI 6456 Psychology and Philosophy of Science.
Credits: 5

PHI 6686 Seminar in Problems of Value.
Credits: 5

PHI 6806 Seminar in the Philosophy of Art.
Credits: 5

PHI 6905 Individual Work.
Credits: 1 to 5

PHI 6910 Supervised Research.
Credits: 1 to 5††

PHI 6934 Special Topics.
Credits: 1 to 5

PHI 6940 Supervised Teaching.
Credits: 1 to 5††

PHI 6971 Master's Research.
Credits: 1 to 15††

PHI 7980 Doctoral Research.
Credits: 1 to 15††

Philosophy, History of

PHH 3100 Ancient Greek Philosophy. F, S, SS.
Credits: 5
The history of philosophy from the pre-Socratics to Plotinus, emphasizing selected primary sources.

PHH 3200 Medieval Philosophy. W.
Credits: 5; No prereq.
The history of philosophy in the Scholastic centuries and the Renaissance; selected primary works.

PHH 3400 Modern Philosophy 1. W, S.
Credits: 5; No prereq.
The history of philosophy from Descartes to Kant, the period strongly influenced by modern science; selected primary works.

PHH 3440 Modern Philosophy 2. F, W.
Credits: 5; No prereq.
German idealism and some 19th century developments (e.g., Hegel, Marx, Nietzsche, Schopenhauer); selected primary works.

PHH 3620 Conceptual Analysis 1. W.
Credits: 4.
An investigation of the nature and principles of a

††Grading is on S-U basis only.

major contemporary philosophical movement known as conceptual, or linguistic, analysis. The principles studied may be applied to some real-life problems of current interest.

PHH 3621 Conceptual Analysis 2. S.
Credits: 4; No prereq.
An examination of selected works by one or more philosophers of the contemporary conceptual, or linguistic, analysis movement.

PHH 3640 Early Existentialist Thought. F.
Credits: 4
An introductory study of the basic religious, literary or philosophical writings of the early existentialist thinkers.

PHH 3641 Later Existentialist Thought. W.
Credits: 4; No prereq.
An introductory study of the basic religious, literary or philosophical writings of the later existentialist thinkers.

PHH 4130 Early Greek Philosophy. F.
Credits: 4
An examinination of the first, i.e., pre-Socratic, stages of Western philosophy—with some reference both to cultural context and to later influence.

PHH 4205 Medieval Philosophy. S.
Credits: 4
The study of representative works from the period c. 400-1400.

PHH 4401 Themes in Modern Philosophy. F.
Credits: 4
An examination of dominant themes and representative figures from the modern period.

PHH 4500 Nineteenth Century Philosophy. S.
Credits: 4
An examination of one or more figures or schools of thought from the post-Kantian period.

PHH 4703 The Pragmatic Movement. W.
Credits: 5
A consideration of the extent to which the work of Peirce, James, Dewey, Mead and Lewis forms an organized philosophical position; an elective in American Studies.

All PHH courses listed below may be repeated with change of content up to a maximum of 12 credits in the case of 4 credit courses and up to a maximum of 15 credits in the case of 5 credit courses.

GRADUATE COURSES

PHH 5135 Studies in Early Greek Philosophy. F.
Credits: 4

PHH 5206 Studies in Medieval Philosophy. S.
Credits: 4

PHH 5406 Studies in Modern Philosophy. F.
Credits: 4

PHH 5505 Studies in Nineteenth Century Philosophy. S.
Credits: 4

PHH 5645 Studies in Phenomenology 1. F.
Credits: 4

PHH 5646 Studies in Phenomenology 2. W.
Credits: 4

PHH 6069 Seminar on Themes in Classical/Medieval Philosophy.
Credits: 5

PHH 6106 Seminar in Ancient Philosophy.
Credits: 5

PHH 6405 Seminar in Modern Philosophy.
Credits: 5

PHH 6509 Seminar in 19th Century Philosophy.
Credits: 5

PHH 6649 Seminar in 20th Century European Philosophy.
Credits: 5

Philosophy of Man and Society.

PHM 2142 Systems Philosophy, Energy and the Environment. S.
Credits: 4
An introductory, interdisciplinary exploration of current environmental problems from a systems energetics viewpoint. Ethical implications for planning our future.

PHM 3201 Critical Social Theory. S.
Credits: 4
Problems and issues in the development of contemporary social and political philosophy.

PHM 3202 Political Philosophy. F.
Credits: 4
A study of political theories and their relation to political transformation.

PHM 3224 Feminism and Philosophy. W.
Credits: 4
Analysis of various philosophies of feminism, e.g., Existentialist, Marxist, Socialist, in order to develop a philosophy of feminism.

PHM 3400 Philosophy of Law. W.
Credits: 4
Introduction to philosophical issues in legal theory, covering such topics as the justification and source of legal authority, nature of the judicial process, rights, justice, civil liberties, and the relation of law and morality.

PHM 3420 The Individual and The Law. W, S.
Credits: 4
Study of selected topics and problems as they present themselves to citizens, lawyers, philosophers and scientists; emphasis on philosophical presuppositions implicit in juridical thinking.

PHM 3500 Philosophy of History. F.
Credits: 4
An inquiry into basic issues concerning history as made and history as investigated. Major theories of historical development and/or contemporary analytic controversies will be considered.

PHM 4055 Philosophy and Mental Health. F.
Credits: 4
Discovering, comparing and criticizing diverse philosophical presuppositions implicit in various types of psychological care and prevention.

PHM 4440 Problems in the Philosophy of Law. S.
Credits: 4
An examination of various traditionally philosophical issues appearing in legal theory, practice and literature, emphasis on such topics as the concepts of responsibility, causation, punishment and intentionality.

PHM 4501 Advanced Philosophy of History. W.
Credits: 4
An investigation of controversial topics related to history; e.g., explanation, general laws, objectivity and relativism. One or more classical theories of history will be examined.

PHM 4700 Philosophy of Culture. S.
Credits: 4
Contemporary philosophic perspectives on the nature and formation of culture.

All PHM courses listed below may be repeated with change of content up to a maximum of 12 credits in the case of 4 credit courses and up to a maximum of 15 credits in the case of 5 credit courses.

GRADUATE COURSES

PHM 5505 Advanced Philosophy of History. W.
Credits: 4

PHM 5520 Studies in Philosophy of Culture. S.
Credits: 4

Religion

REL 3620 Philosophies of Judaism.
Credits: 4
An investigation of selected figures and themes in the Jewish philosophical tradition both classical and modern. Various approaches both mystical and rational will be considered. May be repeated with change of content up to a maximum of 12 credits.

GENERAL PHYSICAL EDUCATION
College of Physical Education, Health, and Recreation

INSTRUCTIONAL STAFF 1979-80

Moore, C.A., Chairman; Alexander, R.H.; Chafin, M.B.; Eckdahl, J.; Harlan, W.E.; Lee, P.A.; McCachren, J.R.; Meng, P.C.; Moore, A.C.; Philips, S.L.; Pye, R.L.; Ryan, M.P.; Scott, T.M.; Shields, D.A.; Stephens, F.W.; Waglow, I.F.; E.J. Weaver; Welsch, W.R.

The elective program of physical education is dedicated to the development of personal fitness, recreation lifetime skills, and the shaping of desirable attitudes concerning health and physical activity. Specific courses which contribute to meeting these objectives are as follows:

Dance Activities

DAA 1100 Modern Dance. F, W, S.
Credits: 1

DAA 1300 Social Dance. W, S.
Credits: 2

DAA 1310 Square Dance. W, S.
Credits: 1

DAA 1340 Folk Dance. W, S.
Credits: 1

DAA 1500 Jazz Dance. F, W, S.
Credits: 1

Physical Education Acts (General) Object Centered, Land

PEL 1041L Recreational Games. F, W, S.
Credits: 1

PEL 1111L Bowling. F, W, S.
Credits: 1

PEL 1121L Golf. F, W, S.
Credits: 2

PEL 1141L Archery. F, W, S.
Credits: 2

PEL 1166L Riflery. W, S.
Credits: 1

PEL 1211L Softball. S.
Credits: 2

PEL 1321L Volleyball. F, W, S.
Credits: 1

PEL 1322L Advanced Power Volleyball. F, W, S.
Credits: 2

PEL 1341L Tennis. F, W, S.
Credits: 2

PEL 1346L Badminton. S.
Credits: 1

PEL 1421L Handball. F, W, S.
Credits: 1

PEL 1423L Four Wall Handball. W, S.
Credits: 2

Descriptions

PHYSICAL EDUCATION, HEALTH, AND RECREATION

PEL 1441L Racquetball. F, W, S.
Credits: 1

PEL 1511L Soccer. F, W, S.
Credits: 1

PEL 1521L Team Handball. W, S.
Credits: 1

PEL 1541L Speedball. W.
Credits: 1

PEL 1571L Lacrosse. F, W, S.
Credits: 1

PEL 1621L Basketball. W, S.
Credits: 1

PEL 1622L Advanced Basketball. W, S.
Credits: 2

PEL 1646L Flag Football. W, S.
Credits: 1

PEL 2112L Advanced Bowling. W, S.
Credits: 1

PEL 2122L Advanced Golf. F, W, S.
Credits: 2

PEL 2142L Advanced Archery. F, W, S.
Credits: 1

PEL 2342L Advanced Tennis. F, W, S.
Credits: 2

PEL 2347L Advanced Badminton. S.
Credits: 1

PEL 2422L Advanced Handball. W, S.
Credits: 1

PEL 2512L Advanced Soccer. W.
Credits: 1

Physical Education Acts (General)
Performance Centered, Land

PEM 1012L Adapted Program. F, W, S.
Credits: 1

PEM 1100L Basic Concepts of Physical Education. F, W, S.
Credits: 2

PEM 1102L Conditioning. F, W, S.
Credits: 2

PEM 1121L Yoga for Exercise and Fitness. F, W, S.
Credits: 2

PEM 1131L Weight Training. F, W, S.
Credits: 2

PEM 1146L Jogging. F, W, S.
Credits: 2

PEM 1147L Aerobic Dance. F, W, S.
Credits: 2

PEM 1201L Gymnastics. F, W, S.
Credits: 2

PEM 1301L Track and Field. F, W, S.
Credits: 1

PEM 1351L Cycling. F, W, S.
Credits: 1

PEM 1421L Wrestling (M). W, S.
Credits: 1

PEM 1431L Judo. F, W, S.
Credits: 1

PEM 1441L Karate. F, W, S.
Credits: 1

PEM 1461L Fencing. F, W, S.
Credits: 1

PEM 2202L Intermediate and Advanced Gymnastics. F, W, S.
Credits: 2

PEM 2405L Self Defense for Women. W, S.
Credits: 2

PEM 2462L Advanced Fencing. W, S.
Credits: 2

PEP 1330L Orienteering. F, W, S.
Credits: 2

Physical Education Acts (General)
Water, Snow, Ice

PEN 1121L Swimming. F, W, S.
Credits: 2

PEN 1136C Skin and Scuba Diving. F, W, S.
Credits: 3; Prereq: PEN 2113 or instructor approval.

PEN 1151L Springboard Diving. S.
Credits: 1

PEN 1171L Aquacises. F, S.
Credits: 1

PEN 1251L Canoeing. F, S.
Credits: 1

PEN 2113L Advanced Life Saving. F, W, S.
Credits: 2

PEN 2122L Advanced Swimming. F, W, S.
Credits: 1

PEN 2141L Synchronized Swimming. F, W, S.
Credits: 1

PEN 2231L Sailing. F, S.
Credits: 2

PEN 3137 Advanced Scuba Diving. S.
Credits: 3

Physical Education Acts (Professional)
Water, Snow, Ice

PEQ 2115 Water Safety Instructor. F, W, S.
Credits: 3; Prereq: PEN 2113.

PEQ 2126C Instructors of Swimming for the Handicapped. W, S.
Credits: 3

PEQ 3109 Aquatic Management. W, S.
Credits: 4

Physical Education Theory

PET 3251 Sport and Society. W, S.
Credits: 3

PET 3254 Women in Sports. F, W, S.
Credits: 3

PROFESSIONAL PHYSICAL EDUCATION
College of Physical Education, Health, and Recreation

INSTRUCTIONAL STAFF 1979-80

Holyoak, O.J., Chairman; Allen, R.E.; Boyd, C.A.; Graham, M.E.; Hester, J.D.; Kaufmann, D.A.; Leavitt, N.M.; Lerch, H.A.; Siders, R.A.; Tennant, L.K.; Welch, P.D.; Whiddon, N.S.; Zauner, C.W.

The following members of the Division of Intercollegiate Athletics instruct in the Professional Physical Education program: Bergman, J. and coaching staff; Knight, V.; Lotz, J.; Pell, C. and coaching staff; Phillips, T.D.; Randolph, J. and coaching staff; Basketball Coaching Staff; Waters, W.

Dance Education

DAE 2320 Modern Dance Teaching Methods. F, W, S.
Credits: 3
Skills and teaching techniques.

DAE 2360 Folk and Social Dance. F, W, S, SS.
Credits: 3
Skills and teaching techniques.

DAE 3370 Rhythmic Activities for Elementary School Children. F.
Credits: 3; Prereq: Upper Division status or permission of the Chairman of the Department.
The teaching of rhythmic skills and dance movements for elementary school children.

Physical Education Acts (Professional) — Object Centered, Land

PEO 1011C Softball and Flag Football Teaching Methods. F, W, S.
Credits: 2; Prereq: PET 3590C or permission of the Chairman of the Department.
Skills and teaching techniques.

PEO 1321C Volleyball Teaching Methods. F, W, S.
Credits: 1; Coreq: PEO 1521; Prereq: PET 3590 or permission of the Chairman of the Department.
Skills, strategy and teaching techniques of volleyball.

PEO 1511C Soccer and Related Sports Teaching Methods. F, W.
Credits: 2; Prereq: PET 3590C or permission of the Chairman of the Department.
Skills and teaching techniques: soccer, speedball, and gatorball.

PEO 1521C Team Handball Teaching Methods. F, W, S.
Credits: 1; Coreq: PEO 1321C.
Skills, strategy and teaching techniques of team handball.

PEO 2031C Recreational Activities I Teaching Methods. F, W, S, SS.
Credits: 2; Fee required for facilities.
Skills and teaching techniques: archery and bowling.

PEO 2032C Recreational Activities II Teaching Methods. F, W, S, SS.
Credits: 2
Skills and teaching techniques for badminton, racquetball and table tennis.

PEO 2121C Golf Teaching Methods. F, W, S, SS.
Credits: 2; Prereq: PET 3590C or permission of the Chairman of the Department. Fee required for facilities.
Advanced skills and teaching techniques.

PEO 2341C Tennis Teaching Methods. F, W, S, SS.
Credits: 2; Prereq: PET 3590C or permission of the Chairman of the Department.
Advanced skills and teaching techniques.

PEO 2561C Field Hockey Teaching Methods. F, W.
Credits: 2
Skills, strategy, and teaching techniques in field hockey.

PEO 3041C Games and Sports for Elementary School Children. S.
Credits: 3, Prereq: Upper Division status or permission of the Chairman of the Department.
The teaching of sports and games in the elementary school physical education program.

PEO 3124C Coaching Golf. W.
Credits: 2; Prereq: PEO 2121 or permission of the Chairman of the Department; Fee required for facilities.
Types of play, strategy, practice organization, team selection, conduct of matches and tournaments and equipment.

PEO 3213C Officiating III. S.
Credits: 1; Prereq: PEO 1011 or permission of the Chairman of the Department.
Application of rules and techniques of officiating softball or other spring sports. Includes practical experience.

PEO 3214C Coaching Softball. F.
Credits: 2; Prereq: PEO 1011 or permission of the Chairman of the Department.

Systems of play, strategy, conditioning, practice organization, team selection, conduct of games and tournaments and equipment selection.

PEO 3219C Coaching Baseball. F.
Credits: 2; Prereq: Permission of the Chairman of the Department.
Strategy, conditioning, practice organization, team selection, conduct of games, and equipment selection.

PEO 3323C Officiating I. F.
Credits: 1; Prereq: PEO 1321C or permission of the Chairman of the Department.
Application of rules and techniques of officiating volleyball or flag football or other fall sports. Includes practical experience.

PEO 3324C Coaching Volleyball. S.
Credits: 2; Prereq: PEO 1321C or permission of the Chairman of the Department.
Systems of play, strategy, conditioning, team organization, conduct of matches and tournaments.

PEO 3344C Coaching Tennis. F.
Credits: 2; Prereq: PEO 2341 or permission of the Chairman of the Department.
Strategy, conditioning, practice organization, team selection, conduct of matches and tournaments, and equipment selection.

PEO 3514C Coaching Soccer. W.
Credits: 2; Prereq: PEO 1511 or permission of the Chairman of the Department.
Systems of plays, strategy, conditioning, team organization, conduct of games and tournaments.

PEO 3621C Basketball Teaching Methods. F, W, S.
Credits: 2; Prereq: PET 3590C or permission of the Chairman of the Department.
Skills, rules, fundamentals of offensive and defensive basketball strategy and teaching methods.

PEO 3623C Officiating II. W.
Credits: 1; Prereq: PEO 3621C or permission of the Chairman of the Department.
Application of rules and techniques of officiating basketball or other seasonal sports. Includes practical experience.

PEO 3624C Coaching Basketball. S.
Credits: 2; Prereq: PEO 3621C or permission of the Chairman of the Department.
Systems of play, strategy, conditioning, practice organization, team selection, conduct of games and equipment selection.

PEO 3644C Coaching Football. S.
Credits: 2; Prereq: Permission of the Chairman of the Department.
Fundamentals of offensive and defensive football, systems of play, strategy, scouting techniques, organization of practice, and rules interpretations.

Physical Education Acts (Professional)—Performance Centered, Land

PEP 1301C Track and Field Teaching Methods. F, W, S.
Credits: 2
Skills and teaching techniques.

PEP 2131 Weight Training and Conditioning. F, W. S.
Credits: 2
Skills and teaching techniques for weight training and conditioning activities including calisthenics and jogging.

PEP 2201C Gymnastics Teaching Methods. F, W, S.
Credits: 3; Prereq: PET 3590C or permission of the Chairman of the Department.
Advanced skills and teaching techniques.

PEP 2401C Martial Arts Teaching Methods. F, S.
Credits: 2
Skills, strategy, and techniques of teaching judo, karate, and self defense.

PEP 2421C Wrestling Teaching Methods. W, S.
Credits: 2
Skills, strategy, and teaching techniques in wrestling.

PEP 3203C Educational Gymnastics for Elementary School Children. W.
Credits: 3; Prereq: Upper Division status or permission of the Chairman of the Department.
A study of the nature and teaching methods of educational gymnastics.

PEP 3204C Coaching Gymnastics. W.
Credits: 2; Prereq: PEP 2201 or permission of the Chairman of the Department.
Methods of coaching gymnastics and the conduct of meets.

PEP 3304C Coaching Track and Field. W.
Credits: 2; Prereq: PEP 1301 or permission of the Chairman of the Department.
Systems of play, strategy, conditioning, practice organization, team selection, and conduct of meets.

PEP 3424C Coaching Wrestling. F.
Credits: 2; Prereq: PEP 2421 or Permission of the Chairman of the Department.
Strategy, conditioning, practice organization, team selection, conduct of matches and tournaments and equipment selection.

Physical Educational Acts (Professional)—Water, Snow, Ice

PEQ 1121C Swimming Teaching Methods. F, W, S, SS.
Credits: 3; Prereq: PET 3590C or permission of the Chairman of the Department.
Advanced skills and teaching techniques.

PEQ 2141C Synchronized Swimming. S.
Credits: 2; Prereq: PEQ 1121 or permission of the Chairman of the Department.
Individual; dual, and group techniques; composition and production.

PEQ 3124C Coaching Swimming. W.
Credits: 1; Coreq: PEQ 3154C; Prereq: PEQ 1121 or permission of the Chairman of the Department.
Methods of coaching swimming teams including the conduct of meets.

PEQ 3154C Coaching Diving. W.
Credits: 1; Coreq: PEQ 3124C; Prereq: PEQ 1121 or permission of the Chairman of the Department.
Methods of coaching diving.

Physical Education Theory

PET 3000 Foundations of Physical Education. F, W, S, SS.
Credits: 3
Background, nature, purpose and contributions of contemporary physical education.

PET 3127 American Physical Education and Sport. F, W, S, SS.
Credits: 3; Prereq: Upper division status or permission of the Chairman of the Department.
The development of sport and physical education in the United States from Colonial America to the present.

PET 3202 Foundations and Principles of Coaching. S, SS.
Credits: 3; Prereq: Upper division status or permission of the Chairman of the Department.
Introduction to the foundations and principles of coaching in athletics. Topics include individual differences, motivational dimensions, sport as a social phenomenon, factors affecting performance and current research trends.

PET 3230C Skill Acquisition and Motor Development. F, W, S, SS.
Credits: 3; Prereq: Upper division status or permission of the Chairman of the Department.
This course is designed to provide background for understanding, analyzing and teaching skills relating to sports and dance. Attention is given to specific aspects of psychomotor developments and theoretical models of skill acquisition.

PET 3320 Applied Human Anatomy. F, W, S, SS.
Credits: 3; Coreq: PET 3320L.
Study of the human body from a health standpoint. Designed to meet the needs of physical educators, health educators, recreation therapists, and other disciplines interested in the anatomy of the human body.

PET 3320L Applied Anatomy Lab. F, W, S, SS.
Credits: 1; Coreq: PET 3320.

PET 3340C Kinesiology of Motor Skills. F, W, S, SS.
Credits: 3; Prereq: PET 3320, PHY 2004 of permission of the Chairman of the Department.
Fundamentals of statics, kinematics and kinetics related to sports and dance skills. Laboratory experience in biomechanical research, cinematography and film analysis.

PET 3350 Applied Human Physiology. F, W, S, SS.
Credits: 3; Coreq: PET 3350L; Prereq: PET 3320.
Study of the normal function of the human body as related to the fields of physical education, health education, recreation therapy and other related disciplines.

PET 3350L Applied Physiology Lab. F, W, S, SS.
Credits: 1; Coreq: PET 3350.

PET 3360C Physiology of Exercise and Training. F, W, S, SS.
Credits: 3; Prereq: PET 3350 or permission of the Chairman of the Department.
Effects of physical exercise and athletic training on human function and structure.

PET 3430C Physical Education Program in the Elementary School. F.
Credits: 3; Prereq: Upper Division status or permission of the Chairman of the Department.
The beginning course for students planning a concentration in elementary school physical education. Includes philosophy, overview of program, facilities and equipment needed, and evaluation procedures. Not open to students who have completed PET 3461.

PET 3461C Physical Education in the Elementary School. F, W, S, SS.
Credits: 3; Prereq: Upper Division status or permission of the Chairman of the Department.
Organization and conduct of physical education activities for the elementary school. PET 3462C is designed for students majoring in elementary education who have access to children in a group or school situation.

PET 3462C Elementary School Physical Education for the Classroom Teacher. F, W, S, SS.
Credits: 3††; Prereq: Upper Division status or permission of the Chairman of the Department.
The course is designed to prepare the classroom teacher in the conduct of physical education for children grades K-6.

PET 3590C Professional Seminar in Physical Education. F, W, S, SS.
Credits: 1; Prereq: Upper Division status or permission of the Chairman of the Department.
The student's organic fitness, body composition, psychomotor, cognitive proficencies related to physical education activities will be assessed. In addition, reading and writing deficiencies will be identified and a remedial program will be prescribed. The student also must provide evidence of professional involvement. Field experience to be arranged.

PET 3640C Physical Education for the Handicapped. F, W, S, SS.
Credits: 3; Prereq: PET 3320C or equivalent.
The program of physical education as applied to

††Grading is on S-U basis only.

individuals with physical and other handicapping conditions. Includes physical descriptions of disabilities, care of a handicapped person, psychosocial implications, and other pertinent aspects of growth and development that affect atypical individuals. Supervised lab experiences working with the handicapped will be arranged.

PET 3940C Introductory Field Experiences in Physical Education I, K-5. F, W, S.
Credits: 1; Prereq: Upper Division status or permission of the Chairman of the Department.
Orientation to teaching through planned experiences in a local elementary school, Grades K-2 and Grades 3-5. Practical field experience to be arranged.

PET 3944C Introductory Field Experiences in Physical Education II, 6-12. F, W, S.
Credits: 1; Prereq: Upper Division status or permission of the Chairman of the Department.
Orientation to teaching through planned experiences in a local middle school and senior high school. Practical field experience to be arranged.

PET 4413 Administration of Athletics. F, W, S, SS.
Credits: 3; Upper Division status or permission of the Chairman of the Department.
Problems in administering athletic programs.

PET 4415 Administration of Physical Education. F, W, S, SS.
Credits: 4
Fundamental principles of developing, administering, and supervising public school programs of physical education including intramurals.

PET 4442C Physical Education in the Secondary School. F, W, S.
Credits: 5; Prereq: EDE 4203-ESE 4011.
Limited to physical education majors in the term prior to student teaching. Materials, content, and techniques in teaching physical education in the secondary school. Includes field experience in local schools.

PET 4510C Measurement and Evaluation with Lab. F, W, S, SS.
Credits: 3
Techniques in objective measurement and evaluation of physical fitness, motor skills, motor ability, nutritional status, and other activity related problems. Test construction and grading techniques. Supervised lab experiences in test administration to be arranged.

PET 4622C Prevention and Care of Athletic Injuries. F, W, S, SS.
Credits: 3; Prereq: PET 3320, PET 3320L, PET 3350, PET 3350L or equivalent. Fee required.
Prevention of athletic injuries, including protective equipment, safe facilities, and proper supervision of practice and contests. Recognition, referral and follow-up of injuries in athletics. Legal implications of athletic training. Current taping techniques and therapeutic modalities.

PET 4905C Directed Independent Study. F, W, S, SS.
Credits: 1 to 5, max. 5 per quarter; Prereq: Permission of Chairman of the Department.
Offered upon request of students to meet special interests which are not adequately provided for in other courses.

PET 4941C Field Experience in Elementary School Physical Education. F, W, S.
Credits: 3; Prereq: PET 3461 or equivalent.
Supervised experience in a local elementary school.

PET 4943C Practicum in Coaching. F, W, S, SS.
Credits: 2 to 6; Permission of the Chairman of the Department.
Supervised experience in coaching.

PET 4948C Practicum in Physical Education. F, W, S, SS.
Credits: 1 to 16; Prereq: Permission of the Chairman of the Department.

††Grading is on S-U basis only.

Practical experience in such specialty areas as adult fitness programs, health clubs, exercise testing laboratories, clinical laboratories and athletic training rooms. May include senior thesis with oral defense.

GRADUATE COURSES

Health, Leisure and Physical Education

HLP 6323 Evaluation Procedures in Health Education
Credits: 4

HLP 6345 Research Methods in Health Education, Physical Education, and Recreation. F.
Credits: 4

Physical Education Theory

PET 6015 Interpretations of Physical Education.
Credits: 4

PET 6129 Historical Perspectives of Sport.
Credits: 4

PET 6145 Problems in Physical Education.
Credits: 4

PET 6235C Nature and Bases of Motor Performance.
Credits: 4

PET 6346C Biomechanics in Human Motion.
Credits: 4

PET 6365C Physiological Bases of Physical Education.
Credits: 4

PET 6368L Practicum in Exercise Physiology.
Credits: 3

PET 6416 Problems in the Administration of Athletics.
Credits: 4

PET 6425 The Physical Education Curriculum.
Credits: 4

PET 6445 The College Physical Education Program.
Credits: 4

PET 6905 Directed Independent Study.
Credits: 1 to 5. May be repeated with change of content to a maximum of 10 credits.

PET 6910L Supervised Research.
Credits: 1 to 5††

PET 6925C Workshop Series in Physical Education.
Credits: 1 to 10

PET 6932 Seminar in Physical Education.
Credits: 2. May be repeated with change of content.

PET 6940L Supervised Teaching.
Credits: 1 to 5††

PET 6971L Master's Research.
Credits: 1 to 15††

THE PHYSICAL SCIENCES
College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1979-80

Pirkle, E.C., Director; Abbott, E.F.; Brookeman, J.R.; Broyles, A.A.; Chen, K.Y.; Cohen, H.L.; Cross, C.I.; Donivan, F.F.; Dunkle, J.R.; Dunnam, F.E.; Eoff, K.M.; Garrett, R.E.; Gregory, F.; Helling, J.F.; Henry, J.A.; Leacock, R.J.; Lindquist, R.C.; Lynch, M.A.; Marcus, R.B.; Olsson, C.N.; Omer, G.C.; Peterson, L.R.; Roberts, L.H.; Schaeper, H.R.A.; Yorton, J.B.

The following courses are offered through the Department of Geography. The courses are designed to provide the student who may not take further work in physical sciences with an insight into how science has developed and with an understanding of basic phenomena which together make up the physical setting for human society and which have a direct bearing on the development of human society.

The following courses constitute recommended sequences with the courses listed in the sequential order in which they should be taken:
PSC 2501, ISC 2452, and PSC 2121
PSC 2501, PSC 2701, and ISC 2453
ISC 2400, ISC 2401, and ISC 2402

Interdisciplinary Natural Science

ISC 2400 Fundamentals of Physical Science. F.
Credits: 4
The first quarter of the ISC 2400-2401-2402 sequence. Topics covered in this sequence of courses are from physics, chemistry, geology and astronomy and are selected to show the interrelations of these sciences. The nature and structure of scientific knowledge is emphasized. ISC 2400 topics include mechanics, Newtonian system, macroscopic properties of matter, energy, electricity and magnetism, and atomic structure.

ISC 2401 Fundamentals of Physical Science. W.
Credits: 3; Prerequisite: ISC 2400.
Continuation of ISC 2400. Applications of atomic structure to chemistry, also the chemical bond, chemical calculations, types of chemical reactions, and selected topics from organic chemistry.

ISC 2402 Fundamentals of Physical Sciences. S.
Credits: 3; Prerequisites: ISC 2400 and 2401.
Continuation of ISC 2400 and 2401. Selected topics from geology and astronomy; earth materials, processes shaping the earth, structure of the earth, paleonotology, the solar system, evolution and properties of stars, and evolution and structure of the universe.

ISC 2452 Man's Interactions with the Physical Environment. F, W, S, SS.
Credits: 3; PSC 2501 is recommended for background.
Whereas PSC 2501 treats the factors of the physical environment which have influenced the development of civilizations, this course considers the impact that man is now having on the physical environment.

ISC 2453 Physical Science: Energy and Society. W, S.
Credits: 3
A study of energy, its sources and utilization, the interconversion of the forms of energy, the circumstances which have led to energy shortages, the political and social effects of the energy crisis, and the outlook for the future.

ISC 2454 Physical Foundations of Environmental Sciences. S.
Credits: 4; Prerequisite: ISC 2452 or equivalent.
An intermediate course on physical principles underlying man's interactions with the environment. Topics studied are selected to illustrate a wide range of physical considerations related to the environmental impact of technological developments. Basic knowledge of environmental principles is required.

ISC 3455 Water and Society. S.
Credits: 4
This course introduces some of the basic considerations of water as a part of society's resource base. The course includes properties of water, the hydrologic cycle, available supply, distribution of supply, water uses, management strategies, water quality, and water problems of the future.

Physical Sciences

PSC 1420 The Physical Sciences. W.
Credits: 4
Content consistent with the goals of PSC 2121. Admission by invitation.

PSC 1502 The Physical Sciences. S.
Credits: 4
Content consistent with the goals of PSC 2501. Admission by invitation.

PSC 1510 The Physical Sciences. F.
Credits: 4
Content consistent with the goals of ISC 2452. Admission by invitation.

PSC 2121 Natural Regions. F, W, S, SS.
Credits: 4; (No prerequisites.)
A study of the natural regions of the United States, including the origin of physiographic features and the origin and occurrences of natural resources.

PSC 2191L Laboratory in the Physical Sciences.
Credits: 1; Coreq: or Prereq: any single quarter of PSC or ISC.
A laboratory inculcating scientific methods of investigations and using selected concepts in the Physical Sciences.

PSC 2501 Our Environment. F, W, S, SS.
Credits: 4
This course integrates materials from astronomy, meteorology, climatology, geology and physical geography in considering those factors of the physical environment which influence civilization.

PSC 2507-2707-2903 The Physical Sciences: College Honors. PSC 2903: F; 2507: W; 2707: S.
Credits: 3 each
Content consistent with the goals of PSC 2501-ISC 2452-PSC 2121 structured to the abilities of qualified students.

PSC 2701 The Scientific Basis of Technology. W, S, SS.
Credits: 3; (No prerequisites.)
Scientific principles underlying modern technology, consideration of the nature of matter and energy, the relationship between the properties of matter and its structure, the conversion of energy resources into useful work, and problems associated with population growth and technology.

PSC 2936 The Physical Sciences: Special Topics. When needed.
Credits: 4
Topics and problems for individual and small group investigation; techniques of research, documentation, reports, critiques. Admission by permission of departmental chairman.

PSC 3402 Space and Society. S.
Credits: 4
This course considers the extent of man's exploration of the environment of extraterrestrial space. The present uses of the environment of space are stressed, and the possible future endeavors of man in this new environment are explored.

PSC 3900 Men and Concepts. W.
Credits: 4
How concepts in science develop shown through the use of case studies taken from the historical development of planetary astronomy and mechanics. Readings, some of them original scientific writings, illustrate the ideas of such men as Ptolemy, Copernicus, Kepler, Galileo and Newton. Emphasis is on how science works rather than explanations of what science knows.

PSC 3901 Men and Concepts II. S.
Credits: 4
How concepts in science evolve as shown through case studies taken from historical developments in physics and chemistry since the time of Newton. Readings, some of which are original scientific writings, are taken to show the development of the chemical atom, the law of conservation of energy, relativity, quantum mechanics, and nuclear energy.

PHYSICAL THERAPY
College of Health Related Professions

INSTRUCTIONAL STAFF 1979-80

Gould, W.R., Chairman; Carlos, J. Jr.; Day, J.A.; Finley, M.C.; Fisher, N.P.; Holmes, T.M.; Wroe, M.C.

PHT 3001 Introduction to Physical Therapy and Community Health Concepts. F.
Credits: 3; Coreq: PHT 3100C, PHT 4111, or permission of instructor.
Current trends in physical therapy and health care in relation to medical practice. Introduction to patient care.

PHT 3100C Human Anatomy and Kinesiology I. F.
Credits: 3; Coreq: PHT 3001, or permission of the instructor.
Open to physical therapy students and others with permission of instructor. The macroscopic structures and function of the human body with emphasis on neuromuscular and musculoskeletal systems.

PHT 3101C Human Anatomy and Kinesiology II, W.
Credits: 3; Prereq: PHT 3100C.
Continuation of content in PHT 3100C.

PHT 3142C Reflex Assessment and Motor Development. W.
Credits: 2; Coreq: HSC 4522.
Specific reflexes and the inter-relationships of stages of motor development are assessed. Abnormal motor behavior and the physiological and treatment aspects in the geriatric patient are also included.

PHT 3213C Clinical Science I. F.
Credits: 5; Coreq: PHT 3001 and PHT 3100C or PHT 4111.
Basic principles designed to develop skill in the analysis of physical disability and the application of exercises, gait, functional activity training and massage as treatment procedures.

PHT 3214C Clinical Science II. S.
Credits: 4; Prereq: PHT 3213C.
Basic principles designed to develop students' skill in the evaluation and measurement of muscle function and strength and in the measurement of joint motion, bulbar evaluation, in the analysis of posture, and other specific evaluation techniques.

PHT 3215C Physical Modalities. W.
Credits: 5; Prereq: APB 3203 and PHT 3100C or PHT 4111.
Principles and techniques of evaluation and treatment of pathological conditions with low frequency electricity and treatment with thermotherapy procedures. Problem solving approach to patient treatment planning.

PHT 3500 Community Health-Needs, Services, Structure and Implications. W, SS.
Credits: 3; Prereq: PHT 3214C or permission of the instructor.
Roles and functions of physical therapists in community health. History and current trends in provision of health care in the U.S. Levels and systems for the delivery of services. Employment practices in physical therapy.

PHT 3803 Physical Therapy in Community Facilities. F, W, S, SS.
Credits: 1††; Coreq: PHT 3001.
Orientation to local physical therapy clinics and other clinical facilities involved with patient care. Emphasis on how physical therapy serves this community.

PHT 3812 Junior Clinical Practicum. F, W, S, SS.
Credits: 2††; Prereq: PHT 3803.
Supervised practical experience designed to parallel classroom skills learned during the junior year. May be taken as an elective.

PHT 3813 Junior Clinical Practicum. F, W, S, SS.
Credits: 2††; Coreq: PHT 3214C.
Supervised practical experience designed to parallel classroom skills learned during the junior year.

PHT 4111L Anatomy Dissection. F.
Credits: 4; Prereq: PHT 3101C or Coreq: PHT 3001.
Open to physical therapy students and others with permission of instructor. Intensive laboratory study of human anatomy with emphasis on the neuromuscular and musculoskeletal systems.

PHT 4232C Therapeutic Procedures II. W, SS.
Credits: 4; Prereq: PHT 4234C.
Continuation of PHT 4234C.

PHT 4234C Therapeutic Procedures 1. F, S.
Credits: 4; Prereq: HSC 4540 or PHT 3101.
Principles and utilization of equipment and exercise related to the physically disabled

PHT 4245 Therapeutic Procedures III. W, SS.
Credits: 3; Prereq: PHT 4234C; Coreq: PHT 4232C.
Continuation of PHT 4234C.

PHT 4822 Clinical Practicum. F, W, S, SS.
Credits: 3††; Prereq: PHT 3214C; Coreq or Prereq: PHT 4234C.
An internship experience providing students with the opportunity for supervised work in clinical settings.

PHT 4823 Clinical Practicum. F, W, S, SS.
Credits: 3††; Prereq: PHT 4234C; Coreq: PHT 4232C.
Continuation of PHT 4822.

PHT 4824 Internship. F, W, S, SS.
Credits: 4 to 12††; Prereq: Approval of Department Chairman.
Supervised field work experience in facilities approved by the Department. May be repeated with change of assignment up to a maximum of 18 credits.

PHT 4930 Seminar. SS.
Credits: 5; Prereq: PHT 3500 and PHT 4245.
Effective communication and management procedures: program planning and problem solving in patient services.

PHYSICIAN'S ASSISTANT PROGRAM
College of Medicine

PAS 3000 Patient Evaluation 1. F.
Credits: 3
The first course in the sequence PAS 3000, 3001, 3002. Patient evaluation is a lecture-seminar-discussion course with extensive clinical exposure that introduces the student to techniques used in eliciting patient histories and performing physical examinations. Instruction is initially directed toward the collection and proper recording of data generated during the patient interview.

PAS 3001 Patient Evaluation 2. W.
Credits: 3
The second course in the sequence PAS 3000, 3001, 3002.

PAS 3002 Patient Evaluation 3. S.
Credits: 3
The third course in the sequence PAS 3000, 3001, 3002.

PAS 3003 Primary Care 3. S.
Credits: 4
The third couurse in the sequence PAS 3006, 3020, 3003.

PAS 3005 Behavioral Dynamics/Community Health. F.
Credits: 4
The purposes of this course are to enable the student to establish a relationship with the patient that will facilitate diagnosis and treatment; to assist the student in gathering information in an ef-

††Grading is on S-U basis only.

fective manner about the patient and illness that is not available from other sources; and to improve the student's ability to give the patient an understanding of the illness and to support and direct the patient in treatment.

PAS 3006 Primary Care 1. F.
Credits: 4
A study of the most common diseases that impair the body's function or structure; providing a picture of the chain of events that lead to impairment; incidence prevalence and geographical distribution; prognosis. In addition, this course will provide the student opportunities to develop skills in differential diagnosis, awareness of the social implications of the initial complaints and an orientation to preventive medicine. The content of the course will range from the newborn infant to the geriatric patient. The method of instruction will include case presentations and panel discussions by practicing physicians.

PAS 3007 Clinical Procedures and Techniques. S.
Credits: 4
This course is designed to provide the student with skills in performing basic laboratory procedures commonly used in primary care settings. The course also introduces the student to diagnostic and therapeutic techniques. Lectures and laboratory experiences are provided, as well as practical experience utilizing models and other training aids.

PAS 3020 Primary Care 2. W.
Credits: 4
The second course in the sequence PAS 3006, 3020, 3003.

PAS 3021 Physiology. F.
Credits: 4
An intensive study of human physiology. Major emphasis will be placed on the establishment of sound physiological principles which underlie clinical sciences.

PAS 3022 Anatomy. W.
Credits: 5
An intensive study of human anatomy. Systemic and regional approaches will be utilized. Major emphasis will be placed on human dissection. The establishment of sound anatomical principles which underlie clinical sciences will be stressed.

PAS 3023 Pharmacology. S.
Credits: 2
The action and function of classes of drugs, use of specific drugs, contraindications and incompatibilities, side effects and their treatment, dosages, and calculations.

PAS 3024 Microbiology. W.
Credits: 3
A study of normal body flora and pathogenic microorganisms. Microbial physiology associated with pathogenicity of bacteria, viruses, fungi and common parasites; host responses to invasion of these organisms, diagnostic tests used for identification of pathogens, antimicrobial agents and fundamentals of immunology.

PAS 4004 Infectious Disease.
Credits: 6
A six-week rotation surveying the findings and effects of numerous pathogenic bacteria and fungi as they relate to infectious disease processes. The student is actively involved in an inservice rotation, primarily a consulting service. The student is required to perform a complete history and physical examination on the patient and is further required to correlate laboratory findings with the clinical manifestations of the infectious disease. The student is further introduced to the manifestations of the illnesses and the rationale for therapy.

PAS 4040 Emergency Room.
Credits: 6
The students are introduced to the busy emergency rooms of the major medical centers. They are exposed to the acutely ill and traumatized patients. The students learn to perform appropriate history and physical examinations on the acutely ill patient. Emphasis is placed on management and support measures of situations which are life-threatening.

PAS 4042 Student Infirmary.
Credits: 6
This six-week rotation is provided to the student who desires additional exposure to a clinical setting. The student will perform history and physical examinations and will have a further opportunity to be exposed to the illnesses and injuries common to the university students.

PAS 4100 General Medicine.
Credits: 6
A six-week rotation in which the student learns basic medical knowledge. The student is exposed to the common medical problems encountered on the in-patient medical service. The emphasis is on the history and physical examination as well as the processes required in the proper work-up and management of a patient. Opportunity is also available for the student to perform the usual ward therapeutic procedures.

PAS 4105 Rehabilitative Medicine.
Credits: 6
The student will spend six weeks in an institution which deals primarily with the rehabilitation of the spinal cord or stroke patients. The student will share time with the physical therapy department, learning the various techniques utilized on the disabled patient. The student is involved in the entire management and discharge planning of the patient requiring some type of continual custodial care. Exposure is also given to the various community services and agencies available to the patient in the rehabilitative centers.

PAS 4110 Hematology.
Credits: 6
During this six-week rotation the student performs a peripheral blood differential of white cells. The student further learns the principles of blood transfusions and the steps in management of untoward reactions to whole blood therapy. The student is introduced to procedures such as bone marrow aspiration and bone marrow biopsies. The student further demonstrates the ability to correlate the history and physical examination with the common hematologic problems normally seen on the hematology service.

PAS 4115 Cardiology.
Credits: 6
The cardiology rotation is of six weeks duration and designed to introduce the student to the basic cardiac abnormalities. The student is introduced to the EKG and the interpretation of both normal and abnormal tracings. The student is also exposed to the coronary care unit and its functions. The methods of performing necessary diagnostic procedures for the evaluation of disorders of the cardiovascular system are also studied.

PAS 4120 Neurology.
Credits: 6
This six-week rotation introduces the student to the common in-patient and out-patient neurologic disorders. The student emphasizes the complete neurologic history and physical examination and the techniques used on the service. The student is further introduced to the diagnostic and therapeutic procedures unique to the neurologic service.

PAS 4125 Psychiatry.
Credits: 6
During this six-week rotation, the student is introduced to patients admitted to the psychiatry service. The student participates in daily rounds and learns the proper use of various medications for various psychiatric disorders. Group therapy sessions are a major part of the student's learning experience.

PAS 4130 Urology.
Credits: 6
The urologic rotation is a six-week rotation which deals with both in-patients and out-patients. Emphasis is placed on the indications as well as side effects of the various diagnostic and therapeutic procedures unique to the urologic service. The student is also provided exposure to the pre- and post-operative care of the urologic patient.

PAS 4140 ENT.
Credits: 6
This is a six-week clinical rotation. The student is introduced to the otolaryngology clinic and the patients most commonly seen in that clinic. Emphasis is placed on the common ear problems and the common throat problems seen in the rural areas. The student receives careful instruction in the proper use of the appropriate instruments.

PAS 4150 Renal.
Credits: 6
During this six-week rotation, the student is asked to perform history and physical examinations on those patients with common nephrological problems. The student is introduced to the hemodialysis procedures and machinery. The student is further introduced to the principles of peritoneal dialysis.

PAS 4160 Gastroenterology.
Credits: 6
This six-week rotation deals primarily with the diagnosis, pathophysiology and essentials of therapy of various gastroenterologic problems. The student learns to perform and interpret both nasogastric intubation and gastric analysis. Instruction in secretin tests, small bowel biopsies, proctosigmoidoscopies and gastroscopies is provided. The student is further instructed in the correlation of the results of the various diagnostic procedures with the clinical course of the patient.

PAS 4170 Rheumatology.
Credits: 6
A six-week rotation providing an in-depth exposure to rheumatologic disease. Students learn therapeutic techniques specifically related to the rheumatologic patient. Emphasis is placed on the history and physical examination on a consulting service.

PAS 4200 General Surgery.
Credits: 6
A six-week rotation exposing the student to a variety of clinical problems, routinely seen on the surgical services. Emphasis is placed on pre-operative and post-operative management of the patient. Aseptic technique and operating room principles are emphasized. Management of the surgical patient, both in the operating room and on the ward are basic on this rotation.

PAS 4220 Plastic Surgery.
Credits: 6
A six-week rotation primarily designed to instruct the student in basic wound care. Also emphasized is surgical repair and management of the simple laceration. Some operating room exposure is available for the more extensive care and repair of wounds. Exposure to burns and burn treatment is also provided.

PAS 4240 Orthopedic Surgery.
Credits: 6
A six-week rotation providing exposure to the emergency room orthopedic patient as well as pre-operative and post-operative care of the surgical patient. In-hospital management as well as out-patient management of the orthopedic patient is emphasized. The student receives instruction in traction, splinting and casting techniques. The student is also given a broad background in more extensive orthopedic repairs in the operating room.

PAS 4260 Neurosurgery.
Credits: 6
During this six-week rotation, the student is taught an understanding of the problems unique in the diagnosis, treatment and management of the neurosurgical patient. The student gains experience in the operating room and further gains a working knowledge of the diagnostic techniques utilized and unique to the neurosurgical services.

PAS 4300 Pediatrics.
Credits: 6
This general pediatric rotation is of six weeks duration and is designed to introduce the student to the childhood illnesses and normal variations of growth and development. The student is encouraged to seek out third party histories and perform pediatric physical examinations. The student is further introduced to the newborn nursery as well as pediatric out-patient clinics and emergency rooms.

PAS 4305 Pediatrics, Genetics and Metabolism.
Credits: 6
During his six-week rotation, the student is exposed to pediatric patients with either genetic or metabolic disorders. The student is required to complete PAS 4300, General Pediatrics, prior to this rotation. The student gains expertise in following the genetic lines of a pediatric patient. The student is also exposed to the common metabolic problems seen most often on the service.

PAS 4320 Obstetrics and Gynecology.
Credits: 6
This six-week rotation is designed to introduce the student to the obstetrical service, the management of pregnancy, labor and delivery. It is further designed to introduce the student to pre- and post-natal complications. The rotation is also designed to introduce the student to the common gynecological problems and management of common female abnormalities.

PAS 4400 Family Practice.
Credits: 6
This six-week rotation is designed to introduce the student to the family practice setting and the interpersonal relationships developed in that setting. The student is exposed to the family practice type patient and other members of the family unit. The student is exposed to the common diseases treated by the primary care practitioner and is further exposed to other members of the health care team. May be repeated with change of topic up to a maximum of 18 credits.

PAS 4420 Preceptorship.
Credits: 6
A six-week rotation primarily in a community based private practitioner's office. It is designed to introduce the student to the community setting. The student will make rounds with the physician and assist him in his office practice. Preferably, this preceptorship would be in a rural setting with a physician who is seeking to employ a physician's assistant.

PHYSICS
College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1979-1980

Hooper, C.F., Jr., Acting Chairman; Adams, E.D.; Bailey, T.L.; Ballard, S.S.; Brookeman, J.R.; Broyles, A.A.; Buchler, J.R.; Chameides, W.L.; Dufty, J.W.; Dunnam, F.E.; Flowers, J.W.; Garrett, R.E.; Green, A. E. S.; Hanson, H.P.; Ihas, G. G.; Kumar, P.; Lowdin, P.O.; Micha, D.A.; Monkhorst, H.J.; Nevis, A.H.; Ohrn, N.Y.; Omer, G.C., Jr.; Pepinsky, R.; Peterson, L.R.; Sabin, J.R.; Scott, T.A.; Taylor, K.E.; Thomas, B.S.; Trickey, S.B.; VanRinsvelt, H.A.

Students planning on an undergraduate major in physics should consult the departmental major adviser, Dr B.S. Thomas, Room 266, Williamson Hall. In preparation for this major program, the student should take the following courses in his Freshman and Sophomore years: MAC 3311-3312-3313-3314, MAP 3302; PHY 2040-2040L-2041-2041L-2042-2042L; PHS 2102-2103-2104; CHM 2045-2046-2047; GER 1120-1121-1122 or equivalent in French or Russian. The complete program, which includes a minimum of 46 credits in physics, will be selected under the guidance of the major adviser For additional information, see College of Liberal Arts and Sciences entrance requirements.

Any physics major with an overall 3.0 or higher grade point average in a minimum of 24 credit hours of physics courses attempted may apply for the Departmental Honors Program in physics. Application should be made to the departmental adviser. Upon acceptance to the program the student will be assigned a supervisory committee composed of two faculty members which will recommend a program for the student which shall include the following minimum requirements: two physics courses selected from the 5000 level (or six equivalent credits in PHY 4905, excluding laboratories); two quarters (no less than a total of 4 credit hours) of PHY 4910L research; and two quarters of PHY 4930, preferably taken concurrently with PHY 4905 or 4910L. Award of Departmental Honors in physics will be made upon: completion of the approved curriculum, including the honors course requirements, with an overall 3.0 or higher grade point average in all physics courses attempted; and recommendation for honors by the student's supervisory committee, based in part on a final written report and oral presentation of the student's research in PHY 4905 or 4910L.

Physics

General Physics Courses: There are four course sequences in general physics. PHY 2002C-2003C is a two-term course sequence emphasizing the practical applications of basic physics to a wide range of professions including architecture, agricultural sciences, building construction, forest resources, and health related services.

PHY 2040-2041-2042 and the corresponding laboratory sequence PHY 2040L-2041L-2042L are intended for all physical science and engineering majors and are open to all students who are taking or will take the calculus sequence through MAC 3313. PHS 2102-2103-2104 are one-credit discussion sections in PHY 2040-2041-2042, respectively. These courses are required of all majors and are strongly recommended for all other students. May be taken on an S/U basis.

PHY 2050-2051-2052 and laboratories PHY 2050L-2051L-2052L are intended primarily for students not majoring in a physical science or an engineering field. These courses are usually taken by preprofessional students (pre-medical, pre-dental, etc.), especially those who have either not taken calculus or who do not plan to take the complete calculus sequence.

PHY 2063C-2064C-2065C constitute the honors sequence in general physics. Each course consists of lectures augmented with a combined discussion and laboratory session. Enrollment is by invitation or special permission; interested students are invited to contact one of the departmental advisers for more details.

PHY 1001C Elements of Physics. On Demand.
Credits: 6; Prereq: One year of high school algebra or equivalent.
A terminal course presenting selected topics from all branches of physics. Primarily for non-science majors. The presentation of the course will include lectures, demonstrations, recitation problem-solving sessions, and laboratory.

PHY 2002C Applied Physics I. F, W, S, SS.
Credits: 5; Prereq: One term of college mathematics.
A course emphasizing the practical applications of basic physics to a wide range of professions including architecture, agricultural sciences, building construction, forest resources, and health related services. Mostly mechanics of motion, forces, energy, momentum, and wave motion.

PHY 2003C Applied Physics 2. F, W, S, SS.
Credits: 5; Prereq: PHY 2002C.
Continuation of the sequence. Fluids, thermodynamics, electric and magnetic fields. Meters. Alternating current. Optics and modern physics.

PHY 2032 Physics for Skeptics. F, W, S, SS.
Credits: 4; Prereq: High school algebra or equivalent.
Directed to those who think that physics is a fearsome thing. Will utilize a minimum of mathematics to discuss basic ideas of modern physics, interpretation versus observation, aesthetic choice in physical theories, theories as games, and the implications of the modern view of nature. Includes demonstrations and class discussion. Not available for undergraduate major credit.

PHY 2032L Laboratory for PHY 2032. F, W, S, SS.
Credits: 1; Prereq: High school algebra.
The format is in keeping with the spirit and philosophy of PHY 2032. Experiments are open ended, do not follow a "cookbook" procedure, can be performed by anyone with some imagination and initiative, and include modern instruments such as a gas laser. Not available for undergraduate major credit.

PHY 2040 General Physics with Calculus 1. F, W, S, SS.
Credits: 3; Prereq: MAC 3311; Coreq: MAC 3312 and PHY 2040L.
Mechanics: statics and kinematics; work, momentum, energy, and power; conservation laws, rotational and harmonic motion.

PHY 2040L Laboratory for PHY 2040. F, W, S, SS.
Credits: 1; Coreq: PHY 2040.

PHY 2041 General Physics with Calculus 2. F, W, S, SS.
Credits: 3; Prereq: PHY 2040; Coreq: MAC 3313 and PHY 2041L.
Electrostatics: fields and potentials, electromotive force, circuits, electromagnetism, capacitance and inductance; magnetic properties of matter; electromagnetic radiation.

PHY 2041L Laboratory for PHY 2041. F, W, S, SS.
Credits: 1; Coreq: PHY 2041.

PHY 2042 General Physics with Calculus 3. F, W, S, SS.
Credits: 3; Prereq: PHY 2040; Coreq: MAC 3313, and PHY 2042L.
Elasticity, wave motion, and sound; heat, thermodynamics, and kinetic theory of gases; geometrical, physical, and quantum optics.

PHY 2042L Laboratory for PHY 2042. F, W, S, SS.
Credits: 1; Coreq: PHY 2042.

PHY 2050 General Physics 1. F, W, S, SS.
Credits: 4; Prereq: MAC 1132 or equivalent; Coreq: PHY 2050L.
Structure and properties of matter; kinematics, dynamics, and statics; momentum and energy; rotation, elasticity; vibration; fluids.

PHY 2050L Laboratory of PHY 2050. F, W, S, SS.
Credits: 1; Coreq: PHY 2050.

PHY 2051 General Physics 2. F, W, S, SS.
Credits: 4; Prereq: PHY 2050; Coreq: PHY 2051L.
Electric charge, fields, and circuits; electromagnetism, applied electricity; temperature, expansion, heat transfer, thermal behavior of gases.

PHY 2051L Laboratory for PHY 2051. F, W, S, SS.
Credits: 1; Coreq: PHY 2051.

PHY 2052 General Physics 3. F, W, S, SS.
Credits: 4; Prereq: PHY 2050; Coreq: PHY 2052L.
Wave motion, sound, geometrical optics, wave optics, applied optics; electrons and photons; atoms and nuclei.

PHY 2052L Laboratory for PHY 2052. F, W, S, SS.
Credits: 1; Coreq: PHY 2052.

PHY 2063C General Physics Honors. F.
Credits: 5; Coreq: MAC 3312.
First course of the sequence PHY 2063-2064-2065. Topics are similar to those of PHY 2040-2041-2042, but in considerably more depth, with more individual instruction in the accompanying laboratory and discussion section. Enrollment is by invitation or special permission only.

Descriptions

PHYSICS

PHY 2064C General Physics Honors. W.
Credits: 5; Prereq: PHY 2063C or special permission of the Physics Department; Coreq: MAC 3313.
Second quarter of the PHY 2063-2064-2065 sequence.

PHY 2065C General Physics Honors. S.
Credits: 5; Prereq: PHY 2064C; Coreq: MAC 3314.
Third quarter of the sequence PHY 2063-2064-2065C.

PHY 3018 The Physics of Photography. F.
Credits: 3
A popular-level survey of the physical basis of photography. The nature of light and color, the way lenses work; how films respond to light; Polaroid process; color photography. Illustrated by numerous applications. The use of mathematics is restricted to simple algebra.

PHY 3036 Frontiers of Science. F, W, S.
Credits: 1
Lectures by outstanding visiting scientists on topics of current interest. Discussions will include the social and environmental aspects of modern science and technology. Open to any student with an interest in the relevance of scientific thought and the scientific method of present-day life. May be taken for credit three times.

PHY 3123 Modern Physics 1. F, S, SS.
Credits: 3; Prereq: One year of college physics and calculus.
The first part of the sequence PHY 3123-4124. Includes atomic physics, relativity, theory of the solid state, basic concepts of quantum mechanics.

PHY 3223 Mechanics 1. F.
Credits: 3; Prereq: One year of college physics and calculus.
First part of the sequence PHY 3223-4224-522S. Introduction to solutions of differential equations; particle motion in one, two, and three dimensions; central forces; development of vector algebra calculus methods.

PHY 3323 Electricity and Magnetism 1. W.
Credits: 3; Prereq: One year of college physics and calculus.
The first part of the sequence PHY 3323, 4324, and S32S. Electric and magnetic fields, Maxwell's equations. Vector methods are introduced and employed.

PHY 3400 Light, Color, and Holography. F, S.
Credits: 3; Prereq: None.
Demonstrations and discussions of commonly observed phenomena of light, color, and vision such as rainbows, sunsets, the blue sky and perceptual illusions. A study of the principles of holography followed by observing the filming of a holograph.

PHY 3400L Holography Laboratory. W, SS.
Credits: 2; Prereq: PHY 3400, PHY 5445, or consent of instructor.
A laboratory course in holography, in which students will make several white-light holographs.

PHY 3423 Optics 1. F.
Credits: 3; Prereq: One year of college physics and calculus.
The first part of the sequence PHY 3423 and 4424. Lenses, optical instruments, interference, diffraction, dispersion, and polarization.

PHY 3905 Individual Work. F, W, S, SS.
Credits: 3 to 6; Prereq: consent of instructor.
A guided course of study or special projects for selected undergraduates, primarily those with fewer than 15 credits of course work in physics or allied fields. May be repeated with change of content, up to a total of 12 credits.

PHY 4070 Introduction to Biophysics.
Credits: 4; Prereq: PHY 2052 or PHY 2042, one intermediate level physics course, and CHM 3200 or CHM 3210.
Biological units; biomolecular structures, functions, and interactions; bioenergetics sensory receptors; self-assembly of biosystems.

PHY 4124 Modern Physics 2. F, W.
Credits: 3; Prereq: PHY 3123, MAP 3302.
The second part of the sequence PHY 3123 and 4124

PHY 4224 Mechanics 2. W.
Credits: 3; Prereq: PHY 3223, elementary differential equations, and vector algebra.
Special theory of relativity; methods in the calculus of variations; Lagrangian and Hamiltonian dynamics.

PHY 4324 Electricity and Magnetism 2. S.
Credits: 3; Prereq: PHY 3323, elementary differential equations and vector algebra.
The second part of the sequence PHY 3323, 4324, and S32S.

PHY 4424 Optics 2. W.
Credits: 3; Prereq: PHY 3423, elementary differential equations and vector algebra.
The second part of the sequence PHY 3423 and 4424.

PHY 4454L Optics Laboratory. W, S.
Credits: 2; Prereq: PHY 3423; Coreq: PHY 4424.
Selected experiments in the refraction, dispersion, diffraction, and polarization of light.

PHY 4523 Fundamentals of Statistical Physics 1. S.
Credits: 3, Prereq: PHY 3123.
The first part of the sequence PHY 4523 and 5524. Introduction to thermodynamics, statistical mechanics, and kinetic theory

PHY 4712L Electrical Measurements. F, S.
Credits: 2; Prereq: PHY 3323 or equivalent. Coreq: PHY 4324.
Laboratory experiments in electricity and magnetism.

PHY 4822L Atomic and Modern Physics Laboratory. F, W.
Credits: 2; Prereq: PHY 3123 or equivalent.
Selected experiments dealing with properties of electrons and atoms, the solid state, X-rays, cosmic rays, gaseous discharges, photoelectric and thermionic emission, and atomic radiations.

PHY 4905 Individual Work. F, W, S, SS.
Credits: 3 to 5; Prereq: 18 credits of physics.
Qualified undergraduate students may study selected topics in physics. May be repeated with change of content up to a total of 15 credits.

PHY 4910L Individual Laboratory Work. F, W, S, SS.
Credits: 2; Prereq: 18 credits of physics.
Qualified undergraduate students may pursue a special project in the laboratory. May be repeated, with change in content, up to a total of 4 credits.

PHY 4930 Research Seminar. W, S.
Credits: 1; Prereq: 18 credits of physics.
PHY 490S or 4910 may be taken conjointly. Qualified undergraduates will take part in weekly seminars on research topics in physics, conducted by research faculty and the students themselves.

Physics — Specialized

PHS 2102 Problem Solutions in General Physics (Calculus) 1. F, W, S, SS.
Credits: 1; Coreq: PHY 2040.
Resource/discussion section for PHY 2040, emphasizing problem solving and mathematical techniques.*

PHS 2103 Problem Solutions in General Physics (Calculus) 2. F, W, S, SS.
Credits: 1; Coreq: PHY 2041.
Resource/discussion section for PHY 2041.*

PHS 2104 Problem Solutions in General Physics (Calculus) 3. F, W, S, SS.
Credits: 1; Coreq: PHY 2042.
Resource/discussion section for PHY 2042.*

PHS 2802 Introduction to Acoustics. S.
Credits: 2; Prereq: MAC 1132 or equivalent.
The elements of wave motion, sound, and related phenomena for the non-science major. Vibrations, simple harmonic motion, standing waves, and resonance, applied to familiar examples. Non-periodic waves and noise.

PHS 4303 Nuclear Physics. S.
Credits: 3; Prereq: PHY 4124.
Elementary treatment of nuclear phenomena, including nuclear properties, stability and radioactive decay, scattering and nuclear reactions, interactions of nuclear radiations with matter, and nuclear forces.

PHS 4330L Laboratory Techniques In Nuclear Physics 1. W.
Credits: 2; Coreq: PHS 4303, or consent of instructor.
The first part of the sequence PHS 4330 and S331L. Detection and energy measurement of particle and photon radiations. Determination of nuclear properties, Coincidence measurements, pulse-height analysis, and nuclear instrumentation. Nuclear reactions.

PHS 4805 The Physical Basis of Music. S.
Credits: 4; Prereq: MAC 1132, or consent of instructor.
Vibration and wave behavior as applied to musical instruments, with studies of the generation and reception of sound waves, musical intervals and scales, musical acoustics and musical electronics.

GRADUATE COURSES

PHY 5225 Intermediate Dynamics. S.
Credits: 3

PHY 5325 Electric and Magnetic Fields. F, SS.
Credits: 3

PHY 5445 Classical and Modern Optics. S.
Credits: 3

PHY 5524 Fundamentals of Statistical Physics 2. F.
Credits: 3

PHY 5624 Modern Physics 3. F, S.
Credits: 3

PHY 5722C Electronics 1. W.
Credits: 3

PHY 5723C Electronics 2. S.
Credits: 3

PHY 5905 Individual Work. F, W, S, SS.
Credits: 3 to 5

PHY 6077 Biophysical Models of Nerve Impulse Propagation.
Credits: 3

PHY 6078 Electrical Activity of the Nervous System.
Credits: 3

PHY 6246 Classical Mechanics.
Credits: 3

PHY 6346 Electromagnetic Theory 1.
Credits: 3

PHY 6347 Electromagnetic Theory 2.
Credits: 3

PHY 6536 Statistical Physics 1.
Credits: 3

PHY 6537 Statistical Physics 2.
Credits: 3

PHY 6556 Low Temperature Physics.
Credits: 3

PHY 6645 Quantum Mechanics 1.
Credits: 3

PHY 6646 Quantum Mechanics 2.
Credits: 3

PHY 6647 Quantum Mechanics 3.
Credits: 3

PHY 6648 Relativistic Quantum Mechanics.
Credits: 3

PHY 6668 Quantum Field Theory.
Credits: 3

PHY 6669 Applications of Quantum Field Theory.
Credits: 3

PHY 6905 Individual Work.
Credits: 3 to 5

PHY 6910 Supervised Research.
Credits: 1 to 5††

PHY 6920 Departmental Seminar.
Credits: 1††

PHY 6935 Seminar in Modern Physics.
Credits: 1††

PHY 6940 Supervised Teaching.
Credits: 1 to 5††

PHY 6971 Master's Research.
Credits: 1 to 15††

PHY 7097 Advanced Topics in Theoretical Physics.
Credits: 4

PHY 7098 Advanced Topics in Experimental Physics.
Credits: 4

PHY 7247 Advanced Classical Mechanics.
Credits: 3

PHY 7348 Advanced Electromagnetic Theory.
Credits: 3

PHY 7538 Advanced Statistical Mechanics 1.
Credits: 3

PHY 7539 Advanced Statistical Mechanics 2.
Credits: 3

PHY 7939 Special Topics.
Credits: 3

PHY 7980 Doctoral Research.
Credits: 1 to 15††

Physics—Specialized

PHS 5204 Optical Spectra.
Credits: 3

PHS 5254 Light and Biological Systems.
Credits: 3

PHS 5255 Molecular Biophysics of Sensory Receptors 1.
Credits: 3

PHS 5256 Molecular Biophysics of Sensory Receptors 2.
Credits: 3

PHS 5257 Seminar in Biophysics.
Credits: 2

PHS 5265 Biocrystallography 1. F, SS.
Credits: 3

PHS 5266 Biocrystallography 2. F, W.
Credits: 3

PHS 5267 Biocrystallography 3. W, S.
Credits: 3

PHS 5304 Nuclear Physics.
Credits: 3

PHS 5331L Laboratory Techniques in Nuclear Physics 2.
Credits: 2

PHS 5354 Introduction to Particle Physics.
Credits: 3

GRADUATE COURSES
Astronomy

AST 6165 Radiopropagation and Ionospheric Physics 1.
Credits: 3

AST 6166 Radiopropagation and Ionospheric Physics 2.
Credits: 3

AST 6167 Physics of Planetary Atmospheres.
Credits: 3

AST 6168 Physics of the Earth's Upper Atmosphere.
Credits: 3

AST 6169 Atomic Physics of Planetary Atmospheres.
Credits: 3

PLANT PATHOLOGY
College of Agriculture

INSTRUCTIONAL STAFF 1979-80

Freeman, T.E., Acting Chairman; Bartz, J.A.; Berger, R.D.; Charudattan, R.; Cook, A.A.; Hiebert, E.; Jackson, L.F.; Kucharek, T.A.; Luke, H.H.; Mitchell, D.J.; Pring, D.R.; Pueppke, S.G.; Purcifull, D.E.; Purdy, L.H.; Roberts, D.A.; Schenck, N.C.; Simone, G.W.; Stall, R.E.; Zettler, F.W.

PLP 3002 Lectures in Basic Plant Pathology. F, S.
Credits: 2; Prereq: BOT 1010C; BOT 2011C recommended.
Principles of plant disease. Reasons for many victories and a few defeats in the continuing battles against disease in plants.

PLP 3003L Laboratory in Basic Plant Pathology. F, S.
Credits: 3; Prereq: or Coreq: PLP 3002 or equivalent.
Diseases that dramatize the laws of Plant Pathology.

PLP 4102L Principles of Plant Disease Control. W.
Credits: 4; Prereq: PLP 3002 or equivalent.
The principles of Plant Pathology as they apply to the problems of commercial control of economically important diseases of agronomic, fruit, ornamental, and vegetable crops.

PLP 4905 Problems in Intermediate Plant Pathology. F, W, S, SS.
Credits: 1 to 5; Prereq: PLP 3002 or equivalent.
Individual study and research in areas of special interest to undergraduate students whose major field is Plant Pathology.

PLP 4931 Seminar in Plant Pathology. S.
Credits: 1; May be repeated once. Prereq: PLP 3002.
Discussion of current concepts and procedures related to the practice of Plant Pathology as a profession.

GRADUATE COURSES

PLP 5032L Intermediate Plant Pathology.
Credits: 3

PLP 5053L Tropical Plant Pathology.
Credits: 4

PLP 6223 Plant Virology.
Credits: 5

PLP 6241 Bacterial Plant Pathogens.
Credits: 5

PLP 6262 Fungal Plant Pathogens.
Credits: 5

PLP 6281 Field Plant Pathology.
Credits: 3

PLP 6291 Plant Disease Diagnosis.
Credits: 2

PLP 6303 Physiology of Parasitism.
Credits: 5

PLP 6402 Epidemiology of Plant Disease.
Credits: 5

PLP 6502 Pathogen Variability and Host Resistance.
Credits: 5

PLP 6905 Problems in Advanced Plant Pathology.
Credits: 1 to 5

PLP 6910 Supervised Research.
Credits: 1 to 5††

PLP 6921 Colloquium in Principles of Plant Pathology.
Credits: 1

PLP 6931 Seminar in Plant Pathology.
Credits: 1††

PLP 6940 Supervised Teaching.
Credits: 1 to 5††

PLP 6971 Master's Research.
Credits: 1 to 15††

PLP 7980 Doctoral Research.
Credits: 1 to 15††

PLANT SCIENCES—GENERAL
College of Agriculture
General and Cross-Departmental Courses

Dean, C.E., Chairman.

The four Departments of Agronomy, Fruit Crops, Ornamental Horticulture, and Vegetable Crops have formulated this curriculum which consists of the following courses:

PLS 2031 Fundamentals of Crop Production. F, S.
Credits: 4; Prereq: Introductory Botany course or equivalent.
Fundamental principles and practices used in the production, improvement, and use of commercial crops.

PLS 3221 Plant Propagation. F, S.
Credits: 3; Must be taken concurrently with PLS 3221L.
Principles, practices, and physiological aspects of the propagation of horticultural and agronomic crops by cuttage, graftage, seedage, and other methods.

PLS 3221L Plant Propagation Laboratory, F, S.
Credits: 2; Must be taken concurrently with PLS 3221.
Practice in propagation of horticultural and agronomic crops by seedage, cuttage, graftage, and other methods.

PLS 3401 Plant Science Operations.
Credits: 1; Prereq: permission of the instructor.
An opportunity for the student to make an extensive evaluation of the application of scientific principles within the several specialized fields of plant science. Representative areas of production will be visited in a 4-S day field trip taken during the interim between quarter terms. Registration must follow completion of trip.

PLS 4601 Weed Science. F.
Credits: 4; Prereq: BOT 3503C, BOT 3053L, and CHM 3200 or equivalent.
Chemical, biological, and mechanical weed control; weed identification and characteristics of herbicides.

PLS 4613 Aquatic Weed Control. SS.
Credits: 3; Prereq: PCB 3033 or BOT 3503C.
Identification of Florida's aquatic weed problems and methods of chemical, biological, mechanical, and physical weed control. Specific topics will include herbicide residue, lake reclaimation, fish-plant interactions, and current laws regulating aquatic weed control.

††Grading is on S-U basis only.

Descriptions

POLITICAL SCIENCE

PLS 4701 Field Plot Techniques. W.
Credits: 3
Techniques and procedures employed in field plot, greenhouse, and laboratory research. Interpretation and disposition of research results.

GRADUATE COURSES

PLS 5652 Herbicide Technology. W.
Credits: 4

PLS 6623 Weed Ecology. S.
Credits: 3

POLITICAL SCIENCE
College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1979-80

Clubok, A.B., Chairman, Bartley, E.R.; Button, I.W.; Conradt, D.P.; Craig, S.C.; Damico, A.J.; Dauer, M.J.; Jones, A.J.; Kelso, W.A.; Legg, K.R.; Lemarchand, R.; McCoy, T.L.; McQuown, O.R.; Maggiotto, M.A.; Matheny, A.R.; Morrison, J.F.; Rosenbaum, W.A.; Rushefsky, M.E.; Sanderson, S.C.; Scher, R.K.; Spanier, J.W.; Suarez, A.; Swanson, B.E.; Thompson, V.A.; Wittkopf, E.R.

Students majoring in political science are required to take POS 2041, American Federal Government; CPO 2002, Modern Political Systems; and INR 2002, International Relations. A total of 45 quarter hours is required for the major. Transfer students should note that of the 45 hours required for the major, at least 12 must be taken at the University of Florida.

Political Science majors with an overall upper division gradepoint average of 3.3 or better are eligible to pursue honors work in the department. The honors program consists of three parts: (1) POS 4932 Honors Preparation, (2) POS 4935 Senior Honors Seminar, and (3) POS 4970 Senior Thesis.

Students selected for admission to the Senior Seminar in Political Science must have successfully completed two credits of POS 4932. The Senior Seminar consists of POS 4935, devoted to problems of conceptualization and research, and the Senior Thesis, POS 4970.

POS 4932 (1 credit each) is taken in conjunction with other Political Science courses at the 3000 or 4000 level. The student must secure permission of the instructor of the regular course to which they wish to add this special honors credit. POS 4932 itself consists of periodic tutorial sessions in which special reading and additional work relating to regular course is discussed. A separate grade is reported for the regular course and for POS 4932.

Political Science majors who have an overall upper division grade average of 3.5 or better and who satisfactorily complete a six hour Senior Thesis, will be graduated with High Honors Those who have an overall upper division average of 3.3 or better and who complete a three hour Senior Thesis, will be graduated with Honors. Note: POS 4935 is given only in the Fall quarter, and POS 4970 in Winter and Spring. If you hope to graduate with honors see an advisor to plan your schedule.

Government Administration, Management, and Planning

This program is recommended for students who will be seeking either entry level career positions in government or graduate level programs of professional training in public administration. Students will orginarily major in Political Science and will concentrate on administrative and related courses both in their major and in their electives. Students in this program are authorized to take up to 15 hours of coursework outside of the College of Liberal Arts and Sciences in order to pursue studies in the management area. Recommended courses for students in the public administration core are listed below:

A. Strongly recommended Political Science courses: PAD 4003, PAD 4034.

B. Recommended Political Science courses: POS 2112, POS 3413, PUP 3204, POS 3142, PUP 4003, PAD 4803, PUP 4404.

C. Strongly recommended courses outside Political Science: ACC 2001, STA 3013, or 3023, ECO 2013, 2033.

D. Recommended courses outside Political Science: PSY 2013, QMB 3700, ECO 4504, SOC 2000, SOC 3310, SOC 3745, MAN 3301, MAN 4310, CIS 3120.

Actual work experience in government is an invaluable adjunct to a student's program of formal study in the field of public administration. For this reason students are encouraged to seek out temporary positions in government agencies as summer jobs. Several different kinds of opportunities are available. Some students have been successful in finding such positions in the local local governments of their home towns. Other students have located jobs in state agencies either in Tallahassee or in regional offices located throughout the state. Students may also seek positions through the federal summer internship programs; information on federal work opportunities is available through the Career Planning and Placement Center in Reitz Union.

For information contact the Political Science Department 3324 GPA.

International Politics

Political Science majors interested in international politics are required to take International Politics (INR 2002) as one of the three required introductory courses CPO 2002 and POS 2041 as well). Beyond this introductory course the student may select from a number of courses: U.S. in World Affairs (INR 3102), The Making of American Foreign Policy (INR 3103), U.S. Military Strategy (INR 4114), Comparative Foreign Policy (INR 4204), International Law (INR 4403), International Institutions (INR 4502) and International Politics of Latin America (INR 4244). Some students may also wish to take Statistics for the Social Sciences (STA 3013) or Introduction to Statistics (STA 3023).

Two points need to be stressed, however, for any student wishing to deepen his knowledge of international politics. The first is that he ought to have a broad training. He should not take just international politics courses, let alone all of them. He should select those of interest to him. But beyond that he ought to think of such other political science courses as The Presidency (POS 3413); Communism: Theory and Practice (POT 4414); The Military in Politics (CPO 3083); The Politics of Developing Countries (CPO 3034), and the various courses focusing on specific areas or countries such as Western Europe (CPO 4103), Latin America (CPO 3303), Africa (CPO 3204), China/Japan (CPO 3513); Post-Industrial Societies (CPO 4046); Eastern European Communist States (CPO 4614); and Politics in the Soviet Union and Eastern Europe (CPO 4633).

The second point which needs emphasizing is is that the student ought to explore widely in related fields. No student in international politics can afford to ignore economics; nor can he be considered well trained without knowledge of such other obviously related fields as history, geography and sociology. The listing below is not meant to be exhaustive, only suggestive. None of the courses are required and the student may well find other courses in these departments which are of interest but not listed here. Moreover, the student may find similarly interesting courses in other fields such as psychology and anthropology. The student ought to consult the catalog and "shop around." It will be time well spent. New courses are often introduced and the content of courses does change.

Economics: Basic Economics I and II (2013, 2023), International Economics (3703, 4713), Comparative Economic Systems (4003), Economic Development (4013) and the economics of various areas/countries such as Latin America (3403), East Asia (4203) and Russia/Soviet Union (4334).

Geography: Geography of World Societies (2420), Geography of World Economics (2500), Political Geography (3471), Economic Geography (3502), Air Photo Interpretation (4124), and the geography of various areas such as Europe (3504) and USSR (3554).

History: U.S. (2010, 2020), U.S.-East Asia (3523), U.S. Since World War II (4270), Military History (4546, 4547), Russian/Soviet (3571, 3572 and 3573), Modern Britain (3502), France (4451) and Germany (4463, 4464).

Sociology: Social Inequality (4410), Complex Organizations (4422), Social Modernization (4432), Modernization in Latin America (4462).

Perhaps one further point ought to be underlined. While a broad training will provide the student with a good international politics background and ability to analyze problems in the field, none of this obviously guarantees a job with the U.S. Government or a multinational corporation.

Graduate courses and seminars are offered leading to both M.A. and Ph.D. degrees.

POLITICAL SCIENCE
Comparative Politics

CPO 2002 Comparative Politics. F, W, S, SS.
Credits: 4
The classification of political systems according to institutional and developmental characteristics. Causes and costs of political stability and instability. Comparison will relate to contemporary political institutions and processes in specific countries.

CPO 3034 Politics in Developing Nations. W.
Credits: 4; Prereq: CPO 2002.
A general introduction to politics in "third world" nations, as examination of common problems and the various strategies for dealing with them.

CPO 3083 The Military in Politics. F.
Credits: 4
An analysis of the sources and uses of the poltical power of the Armed Forces, the causes and consequences of military intervention in politics, and contrasting patterns of civil-military relations in Western and non-Western societies.

CPO 3134 Politics in Britain and the Commonwealth. S.
Credits: 4; Prereq: CPO 2002.
The government and politics of Great Britain and the Commonwealth of Nations. Special emphasis on historical, cultural, social, and economic determinants of current institutions and policies. Constitution, parties, legislatures, executives, civil service systems, law and local government.

CPO 3204 African Politics. F.
Credits: 4; Prereq: CPO 2002.
African nationalism, political movements, and the study of governments in the African states.

CPO 3303 Introduction to Latin American Politics. F, S.
Credits: 4
An introduction to and overview of political patterns and political behavior in Latin America within a comparative and developmental perspective. Emphasis on the social, economic, and political factors shaping contemporary political structures and processes.

CPO 3513 Politics in China and Japan. W.
Credits: 4
An analysis of the government and political process in China and Japan. Special emphasis on the historical social and economic determinants of current political institutions and political behavior.

CPO 4046 Politics in Post-Industrial Societies. S.
Credits: 3
Comparative analysis of advanced industrial states with emphasis on diverse patterns of economic, social and political development as determinants of current political structures and policies.

CPO 4103 Western European Politics. S.
Credits: 4; Prereq: CPO 2002.
A comparative analysis of the government and politics of the major western European countries. Special emphasis will be given to party systems and the social bases of politics in industrialized societies.

CPO 4304 Political Systems of Latin America: Modernization, Authoritarianism, Revolution. F.
Credits: 4; Prereq: CPO 3303 or equivalent experience.
Political responses to modernization in Latin America with emphasis of authoritarian regimes in Argentina and Brazil and the role of revolution in Mexican and Cuban development.

CPO 4306 Contemporary Problems in Latin American Politics. S.
Credits: 4; Prereq: CPO 3303 or equivalent experience.
The analysis of major themes and issues in the study of Latin American politics; the breakdown of democratic systems, dependency and imperialism, revolutionary movements and regimes. Will be offered with changing content.

CPO 4614 Eastern European Communist States. S.
Credits: 4; Prereq: CPO 2002 or POT 4414.
Comparative analysis of Communist parties and governmental systems of the Eastern European Communist government.

CPO 4633 Politics in the Soviet Union and Eastern Europe. W.
Credits: 4; Prereq: CPO 2002 or POT 4414.
A comparative analysis of the formal structures of government and political parties of the Soviet Union and Eastern Europe, the actual operation of their political systems, and the factors which have influenced their development.

GRADUATE COURSES

CPO 5065 Eastern European Communist States.
Credits: 5

CPO 5105 Western European Politics.
Credits: 5

CPO 5145 Politics in Post-Industrial Societies.
Credits: 4

CPO 5305 Political Systems of Latin America: Modernization, Authoritarianism, Revolution.
Credits: 5

CPO 5306 Contemporary Problems in Latin American Politics.
Credits: 5

CPO 5636 Politics in the Soviet Union and Eastern Europe.
Credits: 5

CPO 6036 Politics in Developing Societies.
Credits: 4

CPO 6037 Political Development.
Credits: 3

CPO 6041 Politics in Advanced Industrial Societies.
Credits: 4

CPO 6307 Latin American Politics.
Credits: 4

International Relations

INR 2002 International Relations. F, W, S, SS.
Credits: 4
The nature of international relations; nationalism, imperialism, militarism, armaments; history of international relations, foreign policies, functions and problems of democracy; international organization, the United Nations.

INR 2054 Alternative World Futures.
Credits: 3
Analysis of political implications of global trends in population growth, food production, resource consumption, and weapons proliferation. The adequacy of existing political and social institutions, at both national and international levels, for coping with these trends are examined.

INR 3102 The U.S. and World Affairs. F, W, SS.
Credits: 4; Prereq: INR 2002 or instructor's permission.
An analysis of the tradition and development of American foreign policy with major emphasis on contemporary foreign policy problems.

INR 3303 The Making of American Foreign Policy. W.
Credits: 4; Prereq: INR 2002 or instructor's permission.
Examination of the principal factors influencing the formulation of U.S. foreign policy, including the international environment, information processing, personality factors, political culture, decision makers, and decision making. Consideration is also given to the institutional setting, including the President, Congress and public opinion.

INR 4114 American Military Strategy. S.
Credits: 4; Prereq: INR 2002 and Junior or Senior standing.
This course focuses on contemporary problems of deterrence, arms controls, limited conventional war and revolutionary warfare and upon the assumptions underlying the whole scope of national security policy.

INR 4204 Comparative Foreign Policy. F.
Credits: 4; Prereq: INR 2002 and Junior or Senior standing.
Special topics in international relations and foreign policy such as broad-based comparative analysis of foreign policy behavior, comparative international subsystems, reinterpretation of concepts such as nationalism and imperialism.

INR 4244 International Politics of Latin America. W.
Credits: 4; Prereq: INR 2002 or advanced standing in Latin American studies.
An analysis of the international politics of Latin America, includes relations with the United States and non-hemispheric powers as well as the foreign policies of Latin American states vis-a-vis each other.

INR 4403 International Law. S.
Credits: 3; Prereq: INR 2002 and Junior or Senior standing.
Study of the main principles of the Law of Nations.

INR 4502 International Institutions. S.
Credits: 4; Prereq: INR 2002 and Junior or Senior standing.
Analysis of the political and functional aspects of international organization and administration alternating emphasis on either global organizations, such as the United Nations, or regional organizations such as the European Economic Community.

GRADUATE COURSES

INR 5207 Comparative Foreign Policy.
Credits: 5

INR 5245 International Politics of Latin America.
Credits: 5

INR 5334 American Military Strategy.
Credits: 5

INR 5505 International Institutions.
Credits: 5

INR 6208 Foreign Policy.
Credits: 4

INR 6607 International Relations Theory.
Credits: 4

Public Administration

PAD 4003 Introduction to Public Administration. F, W, S.
Credits: 4
The role of administrative agencies in the formulation and implementation of public policy. Emphasis on the politics of administration. Problems in administrative management.

PAD 4034 Problems of Public Administration and Policy. W, S.
Credits: 4; Prereq: PAD 4003 and Junior or Senior standing.
A treatment of the political-administrative dimensions of government planning, personnel, and finance.

PAD 4604 Administrative Law and Regulatory Politics.
Credits: 4
An introduction to the rapidly expanding and increasingly important field of administrative law. Materials for the course will be balanced between cases in administrative law, illustrating the principles of administrative procedure and review as well as judicial review of administrative agencies and studies of regulatory politics in administrative agencies, with special emphasis on theories of organizational behavior.

PAD 4803 Urban Administration. S.
Credits: 4; Prereq: Junior or Senior standing.
An introduction to government administration and management in urban settings. Emphasis will be placed upon the programmatic aspects of urban governmental management. Topics included are program initiation, formulation, implementation, operation and evaluation.

GRADUATE COURSES

PAD 5035 Problems of Administration and Policy.
Credits: 5

PAD 5807 Urban Administration.
Credits: 5

PAD 6053 Urban Metropolitan and Regional Public Administration.
Credits: 4

PAD 6108 Public Administration Theory.
Credits: 4

PAD 6109 Public Administrative Behavior.
Credits: 4

PAD 6136 Contemporary Public Administration.
Credits: 3

PAD 6227 Public Budgeting and Finance.
Credits: 4

PAD 6327 Government and the Planning Process.
Credits: 4

PAD 6946 Internship in Government.
Credits: 4

Political Science

POS 2041 American Federal Government. F, W, S, SS.
Credits: 4
Basic principles of the Federal Constitution. Civil Rights. Political parties and the electoral process. The structure and machinery of the federal government, including the Congress, President, and Judiciary

Descriptions

POLITICAL SCIENCE

POS 2112 American State and Local Government. F, W, S, SS.
Credits: 3
State constitutions, political parties, and politics. State legislatures, courts and chief executives. The functions of state governments. City and county government.

POS 3002 Analyzing Politics. S.
Credits: 5
An introduction to the theory and method of contemporary political analysis. Emphasis on alternative analytical frameworks, concepts, variables, measurement, and quantitative analysis of political data.

POS 3122 American State Politics. W.
Credits: 4; Prereq: POS 2041.
Analysis of selected topics in American state politics.

POS 3142 Urban Politics. F, W.
Credits: 5; Prereq: POS 2041.
An examination of urban problems and their resolutions.

POS 3173 Southern Politics. F.
Credits: 4; Prereq: POS 2041.
The changing politics of the South; two party development, urbanism, traditionalism, racism.

POS 3204 Political Behavior. S.
Credits: 4
Factors influencing political decisions by the individual and by groups.

POS 3233 Politics and Public Opinion. W.
Credits: 4; Prereq: POS 2041.
Study of the definition and measurement of political opinion by polls and surveys, developmental character of opinions. variables in opinion formation, experiments in opinion measurement and the relation of political opinion to public theory.

POS 3253 Violence and Politics. F.
Credits: 4
Political violence in theory and practice. Effects of violence. How it may be limited. Will be offered with changing content and changing area emphasis.

POS 3263 Political Leadership. S.
Credits: 4
Conceptual and comparative study of leadership in a variety of political contexts.

POS 3273 Political Participation. F.
Credits: 4; Prereq: POS 2041.
Examination of popular participation in the political process and analysis of implications for political order in contemporary societies.

POS 3413 The Presidency. F, W, S, SS.
Credits: 4; Prereq: POS 2041.
The central role of the American Presidency in the political process. Emphasis on the contemporary institutional nature of that office and the behavior of its occupants.

POS 3443 Political Parties and Elections. F, W, S, SS.
Credits: 4; Prereq: POS 2041.
The composition, organization and structure of political parties and their role and relationships in the political process.

POS 3603 American Constitutional Law. F.
Credits: 3; Prereq: POS 2041 and Junior or Senior standing.
A complete study and analysis of the Federal Constitution, with study and briefing of leading cases in constitutional law.

POS 3604 American Constitutional Law. W.
Credits: 4; Prereq: POS 3603.

††Grading is on S-U basis only.

POS 3606 American Civil Liberties. F, S.
Credits: 3; (not open to those taking POS 4654).
Discussion of statutes and court decisions emphasizing First Amendment freedoms, equal protection of the law, due process and rights of defendants, implied rights, and the rights of women, juveniles, students, prisoners and the mentally ill.

POS 4246 Political Socialization. S.
Credits: 4
Examination of the processes by which politically important values and ideas are learned and the agents involved in these processes. The impact of the family, schools, social groupings (class, race, sex), and secondary groups. Political interest, efficiency, and participation considered. Attitudes toward political system.

POS 4284 Judiciary and Policy Making. W.
Credits: 4
An analysis of judicial policy making processes focusing on national level appellate courts.

POS 4424 Legislative Politics. F, S.
Credits: 4; Prereq: POS 2041 and Junior or Senior standing.
The politics of the legislative process. Recruitment of legislators. Formal and informal rules of behavior. Legislative-executive relations. The committee system. The impact of political parties, interest groups, and constituents on the legislative process.

POS 4674 Political Change and Legal Development.
Credits: 4
Introduces the student to the role of law in political and social development by providing him/her with a background in social theory and the history of legal systems, beginning with Roman law.

POS 4684 Administration of Justice. F, S.
Credits: 4
How the administration of justice operates through the courts and through law.

POS 4691 Law, Politics, and the Public Interest.
Credits: 4
Addresses the recent emergence of the "public interest" law movement, emphasizing a critical perspective on uses of litigation as a tool for pursuing policy goals. In particular the course will focus on public interest areas such as consumer law and environmental law.

POS 4724 Models of Politics.
Credits: 4
Focuses on different approaches to the understanding of political behavior. Among the models which will be discussed are biological, social psychological, sociological and rational choice.

POS 4905 Individual Work, F, W, S, SS.
Credits: 3 to 4
Readings and discussion in advanced topics of political science; requires Departmental permission.

POS 4925 Workshop in Political and Social Issues. F.
Credits: 4
A workshop course for advanced Juniors and Seniors majoring in political science on a topic involving practical application.

POS 4930 Special Topics Course.
Credits: 4
Selected topics in political science; precise course content will be announced in advance.

POS 4932 Honors Preparation. F, W, S, SS.
Credits: 1; Maximum of 4 credits allowed. Prereq: UF overall GPA of 3.3.
Must be taken in conjunction with other Political Science courses at the 300 or 400 level. Open to majors with overall UF GPA of 3.3 Students must secure permission of instructor of the course to which they wish to add this credit.

POS 4935 Senior Honors Seminar. F.
Credits: 4; Prereq: Senior major in department and permission of a departmental adviser.
An analysis of the problems of conceptualization and research in the various areas of political science.

POS 4936 Senior Colloquium, W.
Credits: 3; Senior standing in Political Science and permission of instructor required.
Special topics in Political Science on a colloquim. basis for Seniors.

POS 4970 Senior Thesis. W, S.
Credits: 3; Prereq: POS 4935, rep. up to six hours.

GRADUATE COURSES

POS 5247 Political Socialization.
Credits: 5

POS 5425 Legislative Politics.
Credits: 5

POS 5685 Administration of Justice.
Credits: 5

POS 5905 Individual Work.
Credits: 5

POS 5933 Special Topics Course.
Credits: 5

POS 6006 Social Structures and Political Power.
Credits: 4

POS 6067 Federalism and Intergovernmental Relations.
Credits: 3

POS 6127 State Government and Politics.
Credits: 3

POS 6157 Community Analysis.
Credits: 4

POS 6207 Political Behavior.
Credits: 4

POS 6407 Legislative-Executive Relations.
Credits: 4

POS 6617 Topics in Public Law.
Credits: 4

POS 6716 Contemporary Theories in Political Science.
Credits: 4

POS 6736 The Conduct of Inquiry.
Credits: 4

POS 6747 Topics in Political Methodology.
Credits: 4

POS 6757 Survey Research.
Credits: 4

POS 6905 Individual Work.
Credits: 1 to 5

POS 6910 Supervised Research.
Credits: 1 to 5††

POS 6927 Practicum in Applied Political Science.
Credits: 4

POS 6934 Special Topics Course.
Credits: 3 to 4

POS 6940 Supervised Teaching.
Credits: 1 to 5††

POS 6971 Master's Research.
Credits: 1 to 15††

POS 7980 Doctoral Research.
Credits: 1 to 15††

Political Theory

POT 2001 Power, Ethics and the Modern State. F.
Credits: 3
An introduction to the nature and meaning of the modern state with special emphasis on the relationship between politics and ethics. Examination

of obedience and obligation, law and morality and justice.

POT 3314 American Political Thought. S.
Credits: 4; Prereq: Junior or Senior standing in social sciences.
Analysis of major historical and recent interpretations of the American political system. Consideration of such theories as Madisonian democracy, pluralism, elitism, liberalism, and conservatism.

POT 4013 Great Political Thinkers: Ancient and Medieval. F.
Credits: 4
Study of major early political theorists including Plato, Aristotle, St. Augustine, and St. Thomas Aquinas. Emphasis on the principles of a just political order: natural law, civic virtue, constitutionalism. Analysis of church-state struggles and the emergence of the modern state.

POT 4044 Great Political Thinkers: Machiavelli to Marx. W.
Credits: 4
Study of selected political theorists from Machiavelli to Marx. Emphasis on the ideas of authority and freedom, obligation and consent in the writing of Hobbes, Locke, Rousseau, etc. Liberalism, conservatism, utilitarianism, idealism.

POT 4054 Contemporary Theories of the State. S, SS.
Credits: 4; Prereq: 10 hours of Political Science.
A study of the problems of power and justice under the modern state. Consideration of such political doctrines as anarchism, Marxism, fascism and democracy.

POT 4064 Analytic Political Theory: Ideas, Arguments and Political Choices. S.
Credits: 4
Analysis of the concepts and arguments surrounding power liberty, equality, representation and majority rule, obligation and disobedience, censorship and tolerance.

POT 4414 Communism: Theory and Practice. F, S, SS.
Credits: S; Prereq: Junior or Senior standing; CPO 2002 or INR 2002 recommended, but not required.
Emphasis on the interrelationship of theory and practice in the evolution of Marxist-Leninist theory and developments in various communist political systems. The appeals of communism. Cadre training. The development of the international communist system.

GRADUATE COURSES

POT 6007 Leading Political Thinkers.
Credits: 4

POT 6067 Contemporary Political Theory.
Credits: 4

POT 6087 Latin American Political Thought and Ideology.
Credits: 3

POT 6207 American Political Thought.
Credits: 3

POT 6307 Values and Ideologies.
Credits: 4

POT 6506 Values and Administration.
Credits: 3

Public Policy

PUP 2002 Public Policy in the United States. F.
Credits: 3
A general introduction of public policy. The focus is on the selection, costs and consequences of policy goals in America.

PUP 2012 Comparative Public Policies.
Credits: 3
The purpose of this course is to enable the student to obtain an understanding of the differences in scope and substance of major issue and public policies impacting upon the United States and other nation states.

PUP 3204 Politics, Ecologys and Energy. F, S.
Credits: 4
Problems of conservation, pollution. Group pressures and inter-action for and against development.

PUP 3323 Women in Politics. F.
Credits: 4
An investigation of women as a minority group in American politics and the various strategies now employed to change this status.

PUP 3623 Politics of Poverty.
Credits: 3
The purpose of this course is to investigate the issue of poverty, public attitudes toward the poor, public policies dealing with poverty, and forms of mobilization of the poor.

PUP 4003 Issues in American Politics. F, W, S.
Credits: 4; Prereq: POS 2041.
Examples of policy conflict drawn from urbanism, poverty and other areas of national socio-economic policy. Consideration of policy alternatives. Peaceful against violent solutions and effects of groups.

PUP 4104 Politics of Planning. W.
Credits: 4; Prereq: Junior or Senior standing in the social sciences or instructor's permission.
An assessment of the various political factors shaping the direction and tasks of the planner. The planning process will be viewed as having a number of social and economic consequences.

PUP 4313 Minorities and Change in American Politics. W.
Credits: 4
An analysis of the political strategies employed by various racial and ethnic minorities in the United States.

PUP 4404 Politics of Education. W.
Credits: 4; Prereq: Junior or Senior standing or instructor's permission.
The interrelationship of American political and educational systems; educational policymaking as political process; analysis of contemporary educational problems.

GRADUATE COURSES

PUP 5105 Politics of Planning.
Credits: 5

PUP 5405 Politics of Education.
Credits: 5

PUP 6006 Policy Process.
Credits: 4

PUP 6007 Policy Evaluation.
Credits: 4

PUP 6027 Linking Public Policies.
Credits: 3

PUP 6207 Environmental Policy.
Credits: 3

PUP 6317 Politics of Equality.
Credits: 3

PUP 6537 Public Policy of Housing.
Credits: 3

PUP 6607 Health Politics and Policy.
Credits: 3

PUP 6707 Political Economy.
Credits: 3

PUP 6717 Regulatory Politics.
Credits: 3

Social Sciences — Interdisciplinary

DHE 4200 Population Policy. W.
Credits: 4
Review of past and current U.S. population policies. Formulation of policy in the light of numerous criteria and goals. Direct and indirect consequences of selected policies, their implementation and evaluation.

SSI 4601 Masterpieces in Social Sciences 1. F.
Credits: 4; Prereq: Senior standing and some work in one of the social sciences.
Reading of early classics in economics, history, political science, sociology and cultural anthropology.

SSI 4602 Masterpieces in Social Sciences 2. W.
Credits: 4; Prereq: Advanced standing and some work in one of the social sciences.
Reading of similar classics from the 19th century.

SSI 4603 Masterpieces in Social Sciences 3. S.
Credits: 4; Prereq: Advanced standing and some work in one of the social sciences.
Reading of similar classics from the 20th century.

POULTRY SCIENCE
College of Agriculture

INSTRUCTIONAL STAFF 1979-80

Harms, R.H., Chairman; Arafa, A.S.; Damron, B.L.; Douglas, C.R.; Fry, J.L.; Janky, D.M.; Mather, F.B.; Miles, R.D.; Wilson, H.R.

PSE 3211C Incubation, Brooding and Rearing. S.
Credits: 4
Chick embryology; hatchery equipment; incubation principles and practices; brooding equipment and methods; rearing of pullets; chick sexing and judging. Field trips to hatchery, broiler and egg operations.

PSE 4223 Poultry Management. S.
Credits: 4; Prereq: ASG 3003.
Management techniques for broilers, layers, turkeys, hatcheries, and commercial egg and poultry processing plants. Field trips to various poultry operations.

PSE 4311 Poultry Breeding. F, SS.
Credits: 3; Prereq: ASG 3313.
Genetic characteristics, breeds and principles of applied poultry breeding.

PSE 4411C Poultry Nutrition. F.
Credits: 4; Prereq: ASG 3403-3404.
Nutritive requirements, feed formulation, economics and systems of feeding poultry. Production of various vitamin and mineral deficiencies in the laboratories.

PSE 4611 Poultry Products Technology. W.
Credits: 4; Prereq: ASG 3003.
Processing methods, composition, nutritive value, flavor palatability and shelf-life of poultry meat and eggs.

PSE 4905 Problems in Poultry Science. F, W, S, SS.
Credits: 1 to 4; May be repeated with change of content up to a maximum of 9 credits; Prereq: Permission of instructor.
Qualified students may choose an approved problem concerning some phase of Poultry Science.

PSE 4941 Full Time Practical Work Experience in the Poultry Industry. F, W, S, SS.
Credits: 1 to 4††; Prereq: Prior arrangement with advisor, approval of Department Chairman and Dean.

GRADUATE COURSES

PSE 6227 Advanced Poultry Management.
Credits: 4

††Grading is on S-U basis only.

Descriptions

PSYCHOLOGY

PSE 6415 Advanced Poultry Nutrition.
Credits: 4

PSE 6522 Avian Physiology.
Credits: 3 to 5

PSE 6614 Advanced Poultry Products Technology.
Credits: 4

PSE 6905 Problems in Poultry Science.
Credits: 1 to 4
May be repeated with change of content up to a maximum of 12 credits.

PSE 6910 Supervised Research.
Credits: 1 to 5††

PSE 6931 Topics in Poultry Production.
Credits: 2 to 4
May be repeated with change of content up to a maximum of 9 credits.

PSE 6938 Graduate Seminar in Poultry Science.
Credits: 1
May be repeated with change of content up to a maximum of 3 credits.

PSE 6940 Supervised Teaching.
Credits: 1 to 5††

PSE 6971 Master's Research.
Credits: 1 to 15††

PSYCHOLOGY
College of Liberal Arts & Sciences

INSTRUCTIONAL STAFF 1979-80

Meyer, M.E., Chairman; Altmaier, E.M.; Bell-Nathaniel, A.; Berg, W.K.; Brackbill, Y.; Branch, M.N.; Cunningham, W.R.; Dewsbury, D.A.; Epting, F.R.; Fischler, I.S.; Froming; W.J.; Grater, H.; Griggs, R.A.; Johnston, J.M.; Landsman, T.; Levy, C.M.; Malagodi, E.F.; Miller, P.; Miller, S.A.; Nevill, D.D.; Pennypacker, H.S.; Roberts, B.J.; Schlenker, B.R.; Scott, R.R.; Severy, L.J.; Shaw, M.E.; Srull, T; Swanson, R.M.; Teas, D.C.; Tucker, C.; Van Hartesveldt, C.; Waldbillig, R.J.; Webb, W.B.; White, K.D.; Ziller, R.C.

An undergraduate psychology major consists of a minimum of 50 hours of psychology. At least 40 of the 50 hours must be in upper division courses. At least 25 of the 50 hours must be taken at the University of Florida.

Courses must be distributed as follows:

1. Introductory level: PSY 2013 or its equivalent.

2. Foundation level: Students choose a minimum of two courses from each of these two groups:
Group A: EAB 3002, EXP 3604C, PSB 3004, CBH 3003. (Note: EXP 3204 can be substituted for EXP 3604C as an "A" course.)
Group B: DEP 3003, SOP 3004, PPE 3004.

3. Laboratory course: At least one of the following courses must be taken: DEP 4704, SOP 4214C, EAB 4022C, EXP 4205L, EXP 4934C, PPE 4324C, PSB 4104L, CBH 4023C.

4. The student chooses enough additional courses from the 3000-, 4000- or 5000-level courses in psychology to meet the 50-hour minimum requirement.

5. Statistics: **Two courses in statistics are required, STA 3023 and STA 3024. STA 3023 is a prerequisite for all 4000- and 5000-level courses in psychology,** and thus should be taken prior to the laboratory course. It is recommended that STA 3024 be taken prior to or concurrent with the laboratory course. Hours earned in statistics will count toward the 45-hour elective requirement of the College.

††Grading is on S-U basis only.

Students intending to major in psychology, or transferring from another school with a psychology major, should obtain a brochure from the psychology department office, Room 114 PSY, and see a departmental advisor about their program of study.

Department Honors: Students who have completed a substantive and empirical research paper at the University of Florida may request that their research supervisor submit a copy of the paper to the Psychology Honors Committee for evaluation. The committee will recommend that the student graduate with Honors in Psychology if the project exhibits outstanding scholarship, and if the student has earned at least a 3.3 grade point average in all upper division courses and in all psychology courses. Deadlines for submission of research projects to the Undergraduate Coordinator, who serves as chairperson of the Psychology Honors Committee, are available in room 114 of the Psychology Building and in the office of the Undergraduate Coordinator.

Clinical Psychology

CLP 4144 Abnormal Psychology. F, W, S, SS.
Credits: 5; Prereq: PCO 3714 or PPE 3004.
The varieties of disordered experience and conduct are studied for their contribution to an understanding of more effective personal and social adjustment. Specific disorders include the neuroses and psychoses as well as psychosomatic and conduct disturbances.

GRADUATE COURSES

CLP 6169 Seminar: Psychology of Deviant Behavior.
Credits: 4; Maximum 8.

Comparative Psychology & Animal Behavior

CBH 3003 Basic Comparative Psychology. F.
Credits: 4; Prereq: PSY 2013.
Survey of the approaches to and concepts of the study of animal behavior as related to psychology.

CBH 4023C Laboratory Topics in Animal Behavior. W.
Credits: 4; Prereq. or Coreq: CBH 3003 or consent of instructor.
Laboratory techniques used in the study of a variety of behavioral patterns in a variety of species.

GRADUATE COURSES

CBH 5085 Seminar in Comparative Psychology.
Credits: 4; Prereq: CBH 3003.

CBH 6056 Comparative Psychology.
Credits: 4; Maximum of 12 credits; Prereq: PSB 6076 or consent of instructor.

CBH 7088 Advanced Seminar in Comparative Psychology. F, S.
Credits: 3; Prereq: CBH 6056.

Developmental Psychology

DEP 3003 Development Psychology. F, W, S, SS.
Credits: 4; Prereq: PSY 2013.
Theory and research on psychological development from prenatal stages through adulthood.

DEP 4025 Personality Development. W.
Credits: 4; Prereq: PPE 3004, DEP 3003.
Biological and environmental influences on personality development. Methods and data from ethology and behavior genetics are included, and evidence for various theories of socialization explored. Research in specific areas in reviewed, including moral and sex role development, and altruism.

DEP 4115 Infancy and Early Childhood. F.
Credits: 4; Prereq: DEP 3003.
The course will emphasize the development of psychological process during infancy and early childhood as well as prenatal, perinatal and postnatal influences on development.

DEP 4204 Psychology of Exceptional Children. S.
Credits: 4; Prereq: DEP 3003.
Definition and proper classification of types of exceptional children, and the social, psychological, and physical factors involved. Problems of rehabilitation and psychological treatment of the exceptional child.

DEP 4305 Adolescent Psychology. W.
Credits: 4
Biological, psychological, and sociological perspectives on adolescence. Includes such topics as dynamics of socialization, self-concept and identity, peer groups, and problems of adolescence.

DEP 4404 Psychology of Aging. S.
Credits: 4; Prereq: DEP 3003.
Topics in the field of gerontology from a lifespan developmental perspective, including the development of psychological processes in the aged, psychological problems of the aged, and theoretical and methodological issues in the study of the aged.

DEP 4704 Research Methods Developmental Psychology. F, S.
Credits: 4; Prereq: DEP 3003.
Methodological approaches to the study of development including experimental and observational techniques.

GRADUATE COURSES

DEP 5049 Seminar: Contemporary Issues in Developmental Psychology. S.
Credits: 4, Prereq: Senior psychology major or consent of instructor.

DEP 6059 Seminar: Special Topics in Developmental Psychology.
Credits: 1 to 4. May be repeated with change of content up to a maximum of 16 credits.

DEP 6099 Literature in Developmental Psychology. W.
Credits: 4

DEP 6409 Seminar: Adult Development and Aging. F.
Credits: 4

DEP 6796 Measurement in Developmental Research.
Credits: 4; Prereq: Consent of instructor.

DEP 6799 Seminar: Current Research Methods in Developmental Psychology. F.
Credits: 3; Prereq: DEP 6099.

DEP 6936 Special Topics in Developmental Psychology. F, W, S, SS.
Credits: 1 to 2; repeatable to a maximum of 30 credits with change of content.

DEP 7069 Seminar in Developmental Psychology: Cognitive Process.
Credits: 4

DEP 7118 Infancy and Early Childhood. S.
Credits: 4

DEP 7608 Theories of Child Development. S.
Credits: 4

Experimental Analysis of Behavior

EAB 3002 Introduction to Behavior Analysis. F, W, S, SS.
Credits: 4; Prereq: PSY 2013.
An introduction to and survey of the principles, methods, theories and applications of the Experimental Analysis of Behavior.

EAB 4022C Introduction to Laboratory Procedures in Behavior Analysis. F, W, S, SS.
Credits: 5; Prereq: EAB 3002.
An introduction to general laboratory procedures and apparatus employed in the experimental analysis of animal behavior. Daily laboratory sessions focus upon experimental treatments, apparatus programming, and data analysis.

EAB 4033L Strategies and Tactics of Human Behavioral Research. F.
Credits: 4; Prereq: EAB 3002.
Study of scientific approach to investigating human behavior in applied settings.

EAB 4049 Seminar in Experimental Psychology. F, SS.
Credits: 4; Prereq: EAB 3002 and consent of instructor.
Selected topics in research tactics, experimental studies, and theoretical developments in the area of the experimental analysis of behavior. May be taken up to a maximum of 8 credits with change in content.

EAB 4184 Behaviorism in Contemporary Society. S.
Credits: 4; Prereq: EAB 3002.
Consideration of the applications of behavioral science and technology to contemporary society with emphasis upon the implications of behavioristic theory and the experimental analysis of behavior.

EAB 4234C Stimulus Control. W.
Credits: 4; Prereq: EAB 3002.
The characteristics of the sensory systems approached from the orientation of an experimental analysis of each system's capabilities.

EAB 4509 Seminar in Motivation. W.
Credits: 4; Prereq: EAB 3002.
The aversive control of behavior (punishment, avoidance, escape, CER) as related to motivational processes.

EAB 4704 Introduction to Applied Behavior Analysis. F, W, S, SS.
Credits: 5
Recording and charting human behavior. Tactics of behavior management; theory and research.

EAB 4724C Precise Behavior Management. F, W, S, SS.
Credits: 1 to 5
Applications of the principles of behavior analysis to problems involving human behavior change, particularly in an educational context. May be repeated with change in content to a maximum of 8 credits.

EAB 4764 Applications in Behavior Modification and Behavior Therapy. F, S.
Credits: 4; Prereq: EAB 3002.
Reading and discussion about behavioral applications with psychotic children, in mental retardation, with juvenile deliquency, in community mental health, within the family, in preschool and school settings, with alcoholism, with eating disorders, with physiological function and disease, with sexual disorders, with neuroses, with chronic mental hospital patients, and in behavioral technology.

EAB 4933C Seminar in Research Methods in Behavior Analysis. F, S.
Credits: 1 to 5; Repeatable up to maximum of 10 credits with change of content; Prereq: at least one of EAB 4003, EAB 4724, or EAB 4764, as appropriate to current content; and consent of instructor.
Advanced study of special research topics with which the student has had individual laboratory experience. Emphasis is upon research strategies and methodological considerations in specialized areas of experimentation.

GRADUATE COURSES

EAB 5055 Advanced Experimental Analysis of Behavior I. F.
Credits: 4; Prereq: EAB 3002 and consent of instructor.

EAB 5436 Behavioral Pharmacology. S.
Credits: 4; Prereq: EAB 3002.

EAB 5505 Motivation. W.
Credits: 4; Prereq: EAB 3002.

EAB 5935 Laboratory Methods in Psychology. W.
Credits: 4; Prereq: Upper level standing, one of EAB 3002, EXP 3604, PSB 3004, CBH 3003

EAB 6056 Research Tactics in Experimental Analysis of Behavior.
Credits: 4; Prereq: EAB 5055 or 6098.

EAB 6098 Literature in Experimental and Applied Behavioral Analysis.
Credits: 4

EAB 6118 Theoretical Foundations of Behavior Analysis. W.
Credits: 4; Prereq: EAB 5055 or 6098 and permission of instructor.

EAB 6707 Applied Behavior Analysis.
Credits: 4

EAB 6708 Literature in Applied Behavioral Analysis. F.
Credits: 4; Prereq: EAB 5055 or 6098.

EAB 6719 Seminar: Strategies & Tactics of Human Behavioral Research. F.
Credits: 4; Prereq: EAB 6707.

EAB 6758 Measurement and Assessment of Behavior. S.
Credits: 4

EAB 6937C Seminar: Special topics in Experimental Analysis of Behavior.
Credits: 1 to 5; Prereq: EAB 6098.

EAB 7089 Advanced Seminar: Experimental Analysis of Behavior.
Credits: 4; Prereq: EAB 5055 or 6098 and permission of instructor.

EAB 7729C Advanced Seminar: Precise Behavioral Management.
Credits: 4

EAB 7738 Seminar in Behavioral Medicine.
Credits: 4; Prereq: 6 hours of human biology and permission of instructor.

EAB 7739 Advanced Seminar In Behavioral Medicine.
Credits: 4; Prereq: EAB 7738, 6 hours of human biology and permission of instructor.

EAB 7799 Advanced Seminar: Applied Analysis of Behavior.
Credits: 4; Maximum of 16 credits with change of content.

EAB 7888 Experimental Psychopathology.
Credits: 4; Prereq: EAB 5055 or 6098 and permission of instructor.

Experimental Psychology

EXP 3204C Perception and Human Senses. F, W, S, SS.
Credits: 4; Prereq: PSY 2013.
An introductory survey of the human senses and their role in perception, considering how we sense the physical environment and what factors influence our perception of it. An optional laboratory course, EXP 4205L, may be taken concurrently with this course.

EXP 3604C Introduction to Cognitive Psychology. F, W, S, SS.
Credits: 4; Prereq: PSY 2013
Factors influencing learning, memory, thinking, information processing, and perceiving, and consideration of the methods used to study these phenomenona. An optional laboratory course, EXP 4934L, may be taken concurrently with this course.

EXP 3933 Psychology of Sleep and Dreams. W.
Credits: 3
The factors that affect sleep: age, deprivation, shifts, day-to-day activities, individual differences, etc., and the effects of sleep variations on performance. Sleep anomalies: insomnia, sleep walking, etc. The meaning of dreams.

EXP 4104C Sensory Processing. F.
Credits: 4; Prereq: EXP 3204.
An introduction to information processing by sensory systems with consideration of the anatomy, physiology, and psychophysics of visual, auditory, olfactory, gustatory, and skin senses. An optional laboratory component, EXP 4205L, may be taken concurrently.

EXP 4124C Psychoacoustics I. W.
Credits: 5; Prereq: SPA 3102.
Lectures, discussions and laboratory work on auditory stimulus, psychoaccoustical methodology; general models of auditory processing.

EXP 4205L Laboratory in Perception and Human Senses.
Credits: 1 to 4; Coreq: EXP 3204, EXP 4104, or EXP 4214.
Students collect, analyze, and evaluate data on specific problems related to sensory or perceptual abilities. Optional component of EXP 3204, 4104 or 4214. Designed for students preparing for graduate study in psychology. May be repeated with change of content up to a maximum of 4 credits.

EXP 4214C Visual Perception. F, W, S.
Credits: 4; Prereq: EXP 3204 or consent of instructor.
Visual organization of space, time, motion and movement, and search for information. The study of acquisition of information: sensing, attending, perceiving, storing.

EXP 4254 Human Information Processing. F.
Credits: 4; Prereq: EXP 3604.
An exploration of man as a processor of information. Emphasis on visual and auditory processing, attention, and memory, and skilled performance. An optional laboratory component, EXP 4934L, may be taken concurrently.

EXP 4502C Human Learning. F.
Credits: 4; Prereq: EXP 3604.
Consideration of the factors which influence the acquisition of knowledge and skill. An optional laboratory component, EXP 4934L, may be taken concurrently.

EXP 4504C Human Memory. W.
Credits: 4; Prereq: EXP 3604.
Contemporary theories and data on human memory, with emphasis on the information processing approach. An optional laboratory component, EXP 4934C, may be taken concurrently.

EXP 4635 Thinking. S, SS.
Credits: 4; Prereq: EXP 3604.
Examination of the cognitive processes involved in human concept learning, problem solving, decision making and creativity. Consideration of the role of perception, learning and memory, motivation and development in thinking, and individual differences in cognitive skills. An optional laboratory component, EXP 4934, may be taken concurrently.

EXP 4934L Laboratory in Cognitive Psychology. F, W, S, SS.
Credits: 4 Coreq: EXP 3604, EXP 4254, EXP 4502, or EXP 4604C.
Contemporary laboratory techniques used in the study of learning, memory, thinking, information processing, and perceptual processes. The course is designed for those planning to pursue graduate studies in psychology and is an optional laboratory component of EXP 3604C, 4502C, 4504C, 4254, and 4635.

Descriptions

PSYCHOLOGY

GRADUATE COURSES

EXP 5116 Vision. S.
Credits: 4; Prereq: PSB 3004 or PCB 5745 or equivalent, with consent of instructor.

EXP 6098 Literature in Cognition and Perception.
Credits: 4

EXP 6108 A Survey of Sensory Systems.
Credits: 4

EXP 6109 Seminar in Sensory Processes.
Credits: 1††

EXP 6119 Seminar on Vision.
Credits: 4

EXP 6126C Psychoacoustics I.
Credits: 5

EXP 6128 Psychophysiology of Hearing.
Credits: 5

EXP 6209 Seminar: Perception.
Credits: 4

EXP 6519 Seminar: Verbal Learning & Verbal Behavior. F.
Credits: 2 to 5

EXP 6527C Retention and Forgetting.
Credits: 4

EXP 6609 Seminar: Cognition. S.
Credits: 2 to 5; Maximum of 15 credits.

EXP 6717C Psychophysics.
Credits: 4

EXP 6939 Seminar: Current Issues in Cognition and Perception.
Credits: 2 to 15; repeatable to a maximum of 15 credits with change of content.

EXP 7127C Psychoacoustics II.
Credits: 5

EXP 7129 Seminar in Audition.
Credits: 3

EXP 7689 Research Methods of Cognition and Perception. F, W, S, SS.
Credits: 2; repeatable with change of content.

Psychobiology

PSB 3004 Introduction to Physiological Psychology. F, W, S, SS.
Credits: 4; Prereq: PSY 2013.
An introductory survey of the concepts, data, and methods of physiological psychology.

PSB 4003 Advanced Physiological Psychology. F, W, S, SS.
Credits: 4; Prereq: PSB 3004 Coreq: PSB 4104L.
Biological bases of behavior and structural and functional correlates of learning, motivation, and emotion.

PSB 4104L Laboratory in Physiological Psychology.
Credits: 5; Prereq: PSB 3004. Coreq: PSB 4003.
An introduction to current techniques used in research in physiological psychology.

PSB 4934 Biofeedback. F.
Credits: 4; Prereq: PSY 2013 and either PSB 3004 or consent of instructor.
The course surveys research on the organism's ability to control its own physiological activity such as brain electrical activity, heart rate, and blood pressure. Emphasis is on research with humans that has both theoretical and applied relevance. However, the course is not intended to provide instruction on application of biofeedback techniques in the applied setting.

††Grading is on S-U basis only.

GRADUATE COURSES

PSB 5065 Biology of Human Behavior. W.
Credits: 4; Prereq: PSB 3004 or 6076.

PSB 5115C Advanced Laboratory Topics in Physiological Psychology. W.
Credits: 4; Prereq: PSB 3004 or 6076.

PSB 5325 Human Physiological Psychology: Psychophysiology. W.
Credits: 4; Prereq: PSB 3004 or 6076.

PSB 5445 Drug Use and Abuse. W, S.
Credits: 4; Prereq: 10 hours of psychology.

PSB 5465 Neurohumors and Behavior. S.
Credits: 4; Prereq: PSB 3004.

PSB 5505 Developmental Psychobiology. F.
Credits: 4; Prereq: PSB 3004.

PSB 5935 Seminar in Physiological Psychology.
Credits: 3 to 5; Prereq: PSB 3004.

PSB 6067 Human Brain Function.
Credits: 4; Prereq: PSB 6076.

PSB 6076 Literature in Physiological and Comparative Psychology.
Credits: 4

PSB 6086 Advanced Physchophysiology. W.
Credits: 4; Prereq: PSB 5325.

PSB 6087 Advanced Physiological Psychology.
Credits: 4; May be repeated with change of content up to a maximum of 8 credits.

PSB 6607 Research Methods in the Sensory Systems.
Credits: 4; May be repeated up to 8 credits for participation in extended experimental studies and/or learning of technical skills of specific sensory specialty.

PSB 6609 Seminar: Current Topics in Sensory Processes. W, SS.
Credits: 1 to 5

PSB 6627 Cochlear Biophysics.
Credits: 5

PSB 7069 Advanced Seminar in Higher Brain Function.
Credits: 4

PSB 7079 Seminar in Psychophysiology. F.
Credits: 1 to 4

PSB 7118 Current Research Methods in Physiological Psychology. W, S.
Credits: 4

PSB 7248 Neurobehavioral Relations. F, S.
Credits: 4

PSB 7249 Seminar in Neural Mechanisms and Behavior.
Credits: 4

PSB 7719 Seminar: Neural Mechanisms of Ingestion Energy Regulation.
Credits: 2 to 4

PSB 7817 Information Storage: A Neurobiological Approach. W, S.
Credits: 4

Psychology

PSY 2013 General Psychology. F, W, S, SS.
Credits: 5
Introductory course designed to provide an understanding of human behavior through an intensive consideration of Psychological Measurement, Perception, Learning, Memory, Motivation, Emotion, Psychological Testing, Personality, and professions and specialized areas in Psychology. In order to provide greater depth to the course, all students are required to participate in research projects (or in prescribed alternative equivalent experience).

PSY 3912 Introduction to Research in Psychology. F, W, S, SS.
Credits: 1 to 4††; maximum of 6. Prereq: PSY 2013; Consent of instructor.
An introduction to current techniques used in research in the various areas of psychology by participation in on-going research.

PSY 4049 Advanced General Psychology. F, S.
Credits: 4; Prereq: 18 quarter hours of psychology.
Consideration of the roles and functions of the specializations of Psychology in contemporary society together with the historical sources and methodological techniques associated with these aspects of psychology.

PSY 4315 Essentials of Psychological Testing. F.
Credits: 5; Prereq: PPE 3004.
A coverage of all types of psychological tests and their usage in clinical, counseling, business, educational, governmental, military, and industrial applications. Attention will be paid to test construction and the use of tests in psychological research.

PSY 4905 Individual Work. F, W, S, SS.
Credits: 1 to 4††; maximum of 6 credits. Prereq: At least 18 quarter hours of psychology.
Qualified students and the instructor or supervisor concerned may choose a particular problem for investigation or study from the various areas of psychology. A formal written report of the work is required of the student.

PSY 4970 Senior Thesis. F, W, S, SS.
Credits: 1 to 4††; maximum of 8. Combined credits for PSY 3912, PSY 4905 and PSY 4970 shall not exceed 12 credits to count toward the major. Prereq: 36 hours in Psychology and consent of instructor.
Qualified students write a formal research proposal in order to enroll in the course; carry out individual research under the supervision of a faculty member and submit a formal written report.

GRADUATE COURSES

PSY 5605 History of Psychology. F, W, S.
Credits: 5

PSY 6268 Advanced Topics in Factor Analysis.
Credits: 4; Prereq: STA 6707.

PSY 6328 Test Construction.
Credits: 4

PSY 6508 Quantitative Modeling in Psychology.
Credits: 4

PSY 6698 Contemporary Systems in Psychology.
Credits: 4

PSY 6905 Individual Work.
Credits: 1 to 5

PSY 6910 Supervised Research.
Credits: 1 to 5††

PSY 6939 Seminar: The Teaching of Psychology. F, W, S, SS.
Credits: 1 to 5

PSY 6940 Supervised Teaching.
Credits: 1 to 5††

PSY 6971 Master's Research.
Credits: 1 to 15††

PSY 7980 Doctoral Research. F, W, S, SS.
Credits: 1 to 15††

Psychology for Counseling

PCO 3714 Personal Growth. F, W, S, SS.
Credits: 4
An introduction to the concepts and techniques in psychology which apply to personal growth and development. In order to provide greater depth to the course, all students are required to participate in research projects (or prescribed alternative equivalent experiences).

GRADUATE COURSES

PCO 6316C Evaluation in Intelligence.
Credits: 4

PCO 6317C Evaluation in Personality.
Credits: 4

PCO 6939 Seminar: Current Topics in Counseling Psychology.
Credits: 1 to 5

PCO 7948 Practicum in Counseling Psychology. F, W, S, SS.
Credits: 5

PCO 7949 Internship in Counseling Psychology. F, W, S, SS.
Credits: 5; Maximum of 20 credits.

Psychology of Personality

PPE 3004 Psychology of Personality. F, W, S, SS.
Credits: 4; Prereq: PSY 2013.
Development and organization of personality, description and assessment methods, result of research in dynamics.

PPE 4055 Current Theories and Research in Personality. F, W, S, SS.
Credits: 4; Prereq: Consent of instructor.
Issues and problems in description, development and organization of personality.

PPE 4104 Introduction to Humanistic Psychology. F, W, S, SS.
Credits: 4; Prereq: PSY 2013.
The contemporary humanistic view of human behavior and experience. Emphasis upon the human potentialities for high level functioning including creativity, self-concept, caring and commitment.

PPE 4204 The Self. W, SS.
Credits: 5; Prereq: DEP 4115 or PPE 3004.
Origins, developmental organization and change of self in social interaction; methods of study, theory and research.

PPE 4324C Approach and Method for Studying Persons. W.
Credits: 5; Prereq: PSY 2013 and consent of instructor.
Emphasis on problems of approach and design. Laboratory training in basic experimental techniques and procedures related to an analysis of human experience.

PPE 4445 Personality and Somatic Psychology. F.
Credits: 4; Prereq: PPE 3004 and STA 3024.
A study of various psychophysiological relationships. Emphasis on psychological modulation of physiological responses. Relevant topics are psychological set, hypnosis, biofeedback and some of the techniques of somatic psychology.

PPE 4605 Studies of the Person. F, W, S, SS.
Credits: 5; Maximum of 15 credits; Prereq: consent of instructor.
Seminar designed to examine various topics of current interest in the field of personality development and dynamics. May be repeated with change of content up to a maximum of 15 credits.

PPE 4606 Group and Individual Differences. W.
Credits: 5: Prereq: PCO 3714 or PPE 4104.
Intensive study of individual and group differences essential to evaluation of test results and vocational/educational adjustment. Influences of differences in intelligence, age, sex and ethnic and culture background on behavior.

GRADUATE COURSES

PPE 6059 Seminar in Personality.
Credits: 4; Prereq: PPE 6098 or equivalent.

PPE 6098 Literature in Personality.
Credits: 4

PPE 6209 Seminar on the Self. F, S.
Credits: 4

PPE 6307 Research Methods in Personality and Counseling 1. W.
Credits: 4; Prereq: PPE 6098 or consent of instructor.

PPE 6308 Research Methods in Personality and Counseling 2. S.
Credits: 4; Prereq: PPE 6098 or consent of instructor.

PPE 6667 Psychology of Women.
Credits: 4

PPE 7288 Advanced Theories in Personality. W.
Credits: 4

PPE 7309 Advanced Research Seminar in Personality. F.
Credits: 1 to 5

PPE 7947 Field Work in Personality Research. W.
Credits: 4

Social Psychology

SOP 3004 Social Psychology. F, W, S, SS.
Credits: 4; Prereq: PSY 2013.
A study of the social factors influencing individual behavior. Consideration of socialization, social influence and conformity, social interaction, decision-making, attitudes and opinions, and related topics.

SOP 3742 Psychology of Women. F, S.
Credits: 3; Prereq: PSY 2013.
A survey of the research and theory relating to the psychology of women. Course content includes personality, social, and developmental variables.

SOP 4214C Experimental Social Psychology. F, W, S, SS.
Credits: 4; Prereq: SOP 4524.
Laboratory training and basic experimental techniques and procedures used in the investigation of social-psychological processes.

SOP 4334 Community Social Psychology Research. F, W.
Credits: 4; Prereq: SOP 3004.
Community research projects in such areas as studies of urban planning, community conflict, criminal justice, community perception, race relations, the Ombudsman, the meaning of work, citizen participation, quality of life, and social intervention. May be repeated up to a maximum of 8 credits.

SOP 4404 Attitudes and Attitude Change. W, S.
Credits: 4; Prereq: SOP 3004.
The social psychology of attitudes and values, concentrating on how attitudes are defined, measured, formed, and changed. Major emphasis is placed on social psychological theories and research bearing on attitude information and change.

SOP 4513 Human Conflict and Accord. F, S, SS.
Credits: 3; Prereq: PSY 2013.
Theory, research, and applications of interpersonal and intergroup conflict control. A field observation by small study groups is required.

SOP 4524 The Psychology of Small Group Behavior. F, W, S, SS.
Credits: 4; Prereq: SOP 3004.
A consideration of the behavior of individuals as influenced by other individuals and by the relations among individuals.

SOP 4704 Contemporary Issues in Social Psychology. F, W, S, SS.
Credits: 4; Prereq. SOP 3004 or SOP 4524.
A review and discussion of recent issues and advances in social psychology. Contemporary concerns with regard to both theory and research in the laboratory and the community will be the focus of this advanced offering. Example topics to be covered are: moral and value development, altruism, risky shift, prejudice, modeling, deviance and social change.

GRADUATE COURSES

SOP 6069 Advanced Social Psychology 1.
Credits: 4

SOP 6079 Advanced Social Psychology II.
Credits: 4

SOP 6099 Literature in Social Psychology.
Credits: 4

SOP 6116 Theories in Social Psychology. W, S.
Credits: 4

SOP 6229C Laboratory in Social Psychology I.
Credits: 4

SOP 6239C Laboratory in Social Psychology II.
Credits: 4

SOP 6709 Seminar; Social Psychology.
Credits: 4

SOP 7317 Research Methods in Social Psychology.
Credits: 4

SOP 7318 Multidimensional Scaling for Market and Social Analysis. W.
Credits: 5

SOP 7319 Seminar; Research in Social Psychology. F, W, S, SS.
Credits: 1 to 5

SOP 7339C Social Psychological Research in the Community.
Credits: 4

PUBLIC RELATIONS
College of Journalism and Communications

INSTRUCTIONAL STAFF 1979-80

Terhune, J.L., Chairman; Adams, W.W.; Anderson, J.W.; Butler, G.A.; Detweiler, J.S.; Fregly, M.S.; Hammond, F.A.; Kendall, R.L.; Wellborn, C.G.

The Public Relations program is designed primarily for those planning professional careers in corporate, business, private, and government fields, as well as in agency work. These courses may be taken for elective credit by students in all Upper Division units of the University. Students who are interested in major work in other communications fields are also referred to course offerings under Advertising, Broadcasting and Journalism.

PUR 3000 Introduction to Public Relations. F, W, S, SS.
Credits: 4; Prereq: MMC 2100 or permission of instructor.
The relationship between journalism media and the public, and the principles, methods and means of influencing the public. Public Relations programs will be discussed.

PUR 3101 Editing and Graphics. F, W, S, SS.
Credits: 4, Prereq: JOU 3100.
Fundamental instruction and practice in essentials of editing, with special emphasis on publications in support of corporate public relations programs. Included are typography, copyreading, headline writing, design and basic production techniques for tabloid format publications.

PUR 4001 Advanced Public Relations. F, W, S, SS.
Credits: 4; Prereq: PUR 4000; Senior standing in the College of Journalism and Communications; ability to type 30 words per minute.
Analysis of modern techniques of disseminating industrial, business, educational and associational news to the appropriate publics. Special publications, broadcasts, special events, planning and budgeting. Emphasis on current professional practice and public relations campaigns.

RECREATION

PUR 4103 Business and Technical Communication. F, W, S, SS.
Credits: 5; Prereq: PUR 3101 or JOU 4200; Senior standing in the College of Journalism and Communications or permission of the instructor.
Writing, editing and production of material in the areas of trade, business, industrial and technical press, with special attention given to style, form and production techniques of magazine format publications.

PUR 4104 Seminar in Magazine Editing. W.
Credits: 4; Prereq; Senior standing in the College of Journalism and Communications; PUR 4103 or permission of the instructor.
Analysis of magazines to determine design and style trends. Practical work in depth in production techniques from the viewpoint of the editor. Selection and use of illustrations and use of color. Production of complete packages for three types of magazines, bringing together preceding courses in a practical experience atmosphere.

PUR 4402 Public Relations in Criminal Justice. W.
Credits: 3; Prereq: PR or CJ background or permission of the instructor.
Public relations activities in the field of criminal justice, including public attitudes, public awareness campaigns, community relations, volunteer coordination, and working with the news media.

PUR 4905 Individual Problems in Public Relations. F, W, S, SS.
Credits: 1 to 5; Prereq: At least 15 hours of professional courses and approval of the Dean.
Students and the instructor concerned will choose a problem or project which will give the student actual experience in his major field.

PUR 4931 Individual Problems in Public Relations (Honors). F, W, S.
Credits: 1 to 5; Prereq: At least 15 hours of professional courses in the Upper Division, good standing in the Honors Program, approval of the Honors Committee and the approval of the Dean.
The student and the instructor concerned will choose a problem or project which is consonant with the objectives of the Honors Program.

PUR 4932 Special Study in Public Relations. F, W, S.
Credits: 4.
Variable content, providing opportunity for advanced study in the principles, processes and effects of Public Relations. (May be repeated once for a total of 8 quarter hours.)

PUR 4933 Seminar: Ethics and Problems in Public Relations. F, W, S, SS.
Credits: 4; Prereq: Open only to Seniors in the public relations sequence near graduation, or on approval of their instructor.
Analysis and investigations of trends, principles, policies, and ethics, of the most effective and enlightened current public relations practice.

PUR 4940 Public Relations Internship. F, W, S, SS.
Credits: 1 to 5††; Prereq: Minimum of 15 hours of professional courses earned and a 2.5 grade point average. Must have advance approval from academic adviser, department and college offices to receive credit.
Student and instructor will select an appropriate work area related to the field of Public Relations for on-the-job training. Student will work a minimum of three hours on the job for every hour of credit to be received. Progress reports and summary required. May be repeated with change of content up to a maximum of 10 credits.

PUR 4949 Co-op Work Experience. F, W, S, SS.
Credits: 1††; Prereq: Minimim of 15 hours professional courses earned and a 2.5 GPA. Must have advance approval from academic adviser, department and colleges offices to receive credit.
Practical co-op work experience relating to public relations under approved business, institutional or governmental supervision. May be repeated with changed work program upon departmental approval.

††Grading is on S-U basis only.

GRADUATE COURSES

Students interested in graduate work in public relations are referred to course offerings under Communication.

REAL ESTATE AND URBAN ANALYSIS
College of Business Administration

INSTRUCTIONAL STAFF 1979-80

Archer, W.R.; Corgel, J.; Curtis, C.C.; Gaitanis, L.A.; Kelting, R.H.; Smith, H.C.

Courses numbered 3000 or higher are open only to students with Junior standing or above. Note, however, the specific prerequisites for certain courses. Housing and Home Ownership, REE 3720; 4 credits, is offered by correspondence only.

REE 3043 Real Estate Analysis. F, W, S, SS.
Credits: 5
Principles of real estate decision making within the context of our economic, social, legal, and political-governmental systems.

REE 4100 Real Estate Valuation. F, W.
Credits: 4; Prereq: REE 3043.
Approaches and methods of property valuation. Comparable sales analysis, cost-depreciation analysis, and income capitalization are emphasized. A professional appraisal report is required.

REE 4204 Real Estate Financial Analysis. S, SS.
Credits: 4; Prereq: REE 3043.
Real Estate financial analysis as applied to various types of property. Includes the underwriting process, sources of funds, portfolio problems, and governmental programs. Money and mortgage market analysis and the use of modern creative finance are emphasized.

REE 4310 Real Estate Investment. W, S.
Credits: 4; Prereq: REE 4100.
Analysis of real estate investments, using modern tools such as the computer. Current issues as well as analytical methods are presented. Includes financing and income tax considerations.

REE 4430 Real Estate Law. W, SS.
Credits: 4; Prereq: REE 3043 or consent of the instructor.
Legal aspects of real property ownership, development, transfer, and brokerage.

REE 4704 Urban Land Use Analysis. F, S.
Credits: 4; Prereq: REE 3043.
Basic operations of the real estate market in land allocation, as well as theories of city growth and structure. The basic economic principles developed are applied to land use decision making in the private and governmental sectors.

REE 4905 Independent Research. F, W, S, SS.
Credits: 1 to 5; Prereq: Senior standing and previous work in the area selected for research.
Admission is by consent of instructor with approval of the Department Chairman. A written report or reports will be required.

REE 4934 Special Topics. F, W, S, SS.
Credits: 1 to 5; Prereq: Permission of department.
Course providing an opportunity for study in depth of topics not offered in other courses and of topics of special current significance. May be repeated with change of content up to a maximum of 10 credits.

GRADUATE COURSES

REE 6286 Seminar in Real Estate Financial Analysis.
Credits: 4

REE 6305 Seminar in Real Estate Valuation.
Credits: 4

REE 6395 Seminar in Real Estate Investment and Development.
Credits: 4

REE 6609 Seminar in Land Use Controls.
Credits: 4

REE 6756 Seminar in Land Use Analysis.
Credits: 4

REE 6905 Individual Work in Real Estate.
Credits: 1 to 5

REE 6910 Supervised Research.
Credits: 1 to 5††

REE 6936 Seminar in Housing Analysis.
Credits: 4

REE 6940 Supervised Teaching.
Credits: 1 to 5††

REE 6971 Master's Research.
Credits: 1 to 15††

REE 7920 Real Estate Research Workshop.
Credits: 4

REE 7980 Doctoral Research.
Credits: 1 to 5††

RECREATION
College of Physical Education, Health, and Recreation

INSTRUCTIONAL STAFF 1979-80

Varnes, P.R., Chairman; Cato, B.M.; Gamble, D.; Gilkinson, B.; Hall, L.T.; Leilich, R.E.; McCall, G.E.; Regna, J.L.

LEI 2000 Introduction to Recreation and Leisure. F, W, S, SS.
Credits: 3
Provides for the development of an understanding of the various roles that recreation has in our contemporary society and provides students an opportunity to examine recreation as a potential profession.

LEI 3140 Philosophy and History of Recreation. F, W, S.
Credits: 3
An overview of the various perspectives of recreation, leisure and play with the intent of providing students a philosophical base on which to interpret the recreation profession.

LEI 3260 Outdoor Recreation Trends and Issues. F, W, S, SS.
Credits: 3
Examines trends and issues of outdoor recreation relating to such topics as the environment, the ecology, the economy, the American lifestyle and various governmental agencies.

LEI 3320C Leadership in Social Recreation. F, W, S, SS.
Credits: 4
Leadership principles and planning of conducting social recreation programs.

LEI 3330C Camp Counseling. F, W, S.
Credits: 4
The training of counselors for organized camping, including crafts, nature, cooking, and informal activities.

LEI 3400 Recreation Programs. F, W, S.
Credits: 4; Prereq: Upper Division status, LEI 3320.
Planning programs and activities for various recreation settings, especially community recreation.

LEI 3507C Special Events: Administration and Programming. F, W, S, SS.
Credits: 3
Budgeting, organizing, promoting, planning, and related activities necessary to conduct special recreational events.

LEI 3508C Sports Activities: Administration and Programming. F, W, S, SS.
Credits: 3
Budgeting, tournament organization, promotion and related activities necessary to conduct sports activities in a recreation program.

LEI 3540 Management of Recreation Centers. F, W, S, SS.
Credits: 4
Introduction to leisure time activities including facilities, personnel and programs.

LEI 3600 Planning and Maintenance of Leisure Facilities. F, W, S.
Credits: 3
Planning for, budgeting for, site selection, layout of and maintenance of recreational facilities.

LEI 3921 Field Experience in Recreation. F, W, S.
Credits: 4; Prereq. or coreq: LEI 3120 and LEI 3400.
Eight hours of weekly laboratory work to arrange. Supervised experience in the conduct of a variety of recreation activities. Normally taken during the third year.

LEI 4500 Administration of Recreation. F, W, S.
Credits: 5
Limited to recreation majors, or those with permission of the instructor. Organizing and administering community and other recreation services, emphasizing problem solving. Normally taken the quarter prior to interning.

LEI 4700C Recreation for Special Community Groups. F, W, S.
Credits: 5; Prereq: LEI 3400.
Principles and practices in planning and implementing programs in special community-group settings.

LEI 4711 Program Planning and Evaluation in Therapeutic Recreation. F, W, S.
Credits: 4; Prereq: LEI 4700C, or permission of instructor.
Advanced study in planning programs and evaluation in Therapeutic Recreation.

LEI 4760C Leisure, Recreation and the Older Adult. F, S.
Credits: 4
An indepth study of the responsibilities and opportunities in providing recreation services for the older adult.

LEI 4770 Leisure Services for the Socially Deviant. F, W, S.
Credits: 5
Introduces the student to the various leisure services delivery system that may be utilized as rehabilitative tools with the socially deviant population.

LEI 4880 Evaluation of Leisure Services. F, W, S.
Credits: 3
Methods, techniques and application of the evaluation process related to the wide variety of leisure services.

LEI 4905 Variable Topics in Recreation. F, W, S, SS.
Credits: 1 to 5; Prereq: Permission of Chairman of the Department.
Offered upon request of students to meet special interests which are not adequately provided for in other courses.

LEI 4940 Internship in Recreation. F, W, S, SS.
Credits: 16††; Prereq: Permission of the instructor. Limited to Recreation majors.
Practical field experience in selected off-campus recreation programs. Normally taken during the last quarter prior to graduation.

REHABILITATION COUNSELING
College of Health Related Professions

INSTRUCTIONAL STAFF 1979-80

Muthard, J.E., Chairman; Joiner, J.G.; Saxon, J.P. Roberts, D.L.

Guidance & Counseling

GRADUATE COURSES

EGC 5065 An Introduction to Rehabilitation Counseling. F, S.
Credits: 5

EGC 5166 Psychological and Sociological Aspects of Rehabilitation. F, S.
Credits: 5

EGC 6374 Occupational Analysis and Placement Aspects of Rehabilitation Counseling. F, S.
Credits: 5

EGC 6375 Vocational Assessment Aspects of Rehabilitation Counseling. W.
Credits: 4

EGC 6376 Medical and Related Aspects of Rehabilitation Counseling. W.
Credits: 5

EGC 6493 Rehabilitation Evaluation and Counseling with the Disabled. W, SS.
Credits: 5

EGC 6675 Supervisory Techniques in Rehabilitation Counseling.
Credits: 4

EGC 6767 Research in Vocational Rehabilitation. W, SS.
Credits: 4

EGC 6850 Rehabilitation Client Services Practicum. F, W, S, SS.
Credits: 1 to 4

EGC 6851 Rehabilitation Counseling Practicum. F, W, S, SS.
Credits: 1 to 6

EGC 6885 Internship in Rehabilitation Counseling.
Credits: 10

EGC 6905 Individual Work. F, W, S, SS.
Credits: 3 to 6

EGC 6910 Supervised Research. F, W, S, SS.
Credits: 1 to 5††

EGC 6940 Supervised Teaching. F, W, S, SS.
Credits: 1 to 5††

RELIGION
College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1979-80

Creel, A.B., Chairman; Carson, R.A.; Hiers, R.H.; Hill, S.S.; Isenberg, S.R.; Jaberg, R.L.; Mesch, B.; Owen, D.E.; Scott, R.T.; Scudder, D.L. (Emeritus); Stahmer, H.M.; Thursby, G.R.

Students electing courses in Religion are encouraged to note the following areas of interest in the Department, and the suggested beginning level courses in each:

The Meaning and Nature of Religion, REL 2001, REL 2010

Eastern Religions, REL 3340, REL 3330

Biblical Studies, REL 3202, REL 3210, REL 3243

Jewish Studies, REL 3600

Religious Thought, REL 3494, REL 3495, REL 3420, REL 3440

History of Western Religions, REL 3321, REL 3500, REL 3611

Religion in America, REL 3322

Religious Ethics, REL 3172, REL 3140

Students majoring in Religion are required to take a minimum of 10 courses, constituting at least 40 hours, in Religion or approved cognate areas. The major's program must include:

a. One course in each of three of the Western fields of Biblical Studies, History of Western Religions, Religious Thought, and Study of Religious Behavior.

Biblical Studies courses are: REL 3202, REL 3210, REL 3243, REL 4294, REL 4291.

History of Western Religions courses are: REL 3321, REL 3600, REL 3611, REL 3612, REL 3500, REL 3121, REL 3122, REL 4134, REL 4143, REL 4120, CLT 2371.

Religious Thought courses are: REL 3500, REL 3600, REL 3494, REL 3495, REL 3440, REL 3420, REL 3116, REL 3172, REL 3492, REL 3158, PHI 3700, REL 3620, REL 3695, REL 4460, REL 4407, REL 4112, REL 4120, REL 4177, REL 4156, REL 4690, LIT 3363.

Study of Religious Behavior courses are: REL 3021, REL 3322, REL 3600, ANT 3241, REL 3140, REL 3130, REL 3158, SOC 4211, REL 4134, REL 4143, REL 4156.

b. Two courses in the field of Eastern Religion.

Eastern Religions courses are: REL 3340, REL 3330, REL 4390, REL 3342, REL 4347, REL 4333, REL 4346.

Other courses: REL 2001, REL 2010, REL 3938, REL 4304, REL 4933 will be classified as Eastern or Western, depending on their content in any given offering of the course.

c. A concentration composed of at least three additional courses in one field.

The student is invited to formulate his or her own major program, in cooperation with and subject to approval by the departmental adviser. It is recommended that all majors take REL 4933 in the Senior year. Religion courses taken in another institution may count toward major credit, subject to approval by a departmental adviser.

Certification requirements for secondary school teaching in Religion may be met through a major in English and a minor in Religion. See the announcement in the College of Education section of this catalog, or consult the Department.

Graduate minors should be worked out with the respective department advisers.

Candidates for honors in Religion need to fulfill two requirements in addition to those required for all majors. (1) at least a 3.3 grade point average for the last 90 credits. (2) Completion of REL 4933 with a grade of B or better.

Seven courses in the Religion curriculum are offered in association with other departments: ANT 3241, Anthropology of Religon; CLT 2371, Religions of the Graeco-Roman World; LIT 3363, Jewish Literature; PHI 3700, Philosophy of Religion; REL 3620, Philosophies of Judaism; and SOC 4211, Sociology of Religion.

Anthropology

ANT 3241 Anthropology of Religion.
Credits: 4
Cross cultural survey of beliefs and practices dealing with the supernatural. Magic and Religion. Conceptualization of the supernatural. Sacred specialists, their functions and social position. Theories of comparative religion in the light of primitive data.

Classics

CLT 2371 Religions of the Graeco-Roman World
Credits: 4
A study of the development, importance, and influence of the ancient religions of the Mediterranean world. All sources read in translation.

††Grading is on S-U basis only.

Descriptions

RELIGION

English

LIT 3363 Jewish Literature
Credits: 4
A variable content course in aspects of the Jewish literary experience, from the Biblical narrative and Talmudic tales to Yiddish literature and the American Jewish novel.

Philosophy

PHI 3700 Philosophy of Religion.
Credits: 4
A philosophical examination of religious thought and experience.

Religion

REL 2001 Religion in Human Experience
Credits: 4
A study of the religious dimensions of human culture.

REL 2010 Introduction to the Study of Religion.
Credits: 4
The ethical, mystical, doctrinal, ritual, and other basic dimensions of the religious life of humanity, and how to understand them and their relation in specific cases in Asia, Europe, and America.

REL 3021 The Individual and Religious Experience
Credits: 4
An investigation of religious ideas and practices and their meaning for the individual.

REL 3116 Myth in Film and Literature.
Credits: 4
An exploration of films and selected short works of literature which reflect narratives and images basic in Western consciousness.

REL 3121 The Religious Element in the American Tradition, 1565-1860.
Credits: 4
A presentation of the historical development of major religious groups in the United States from the colonial period to the Civil War.

REL 3122 The Religious Element in the American Tradition, 1860 to Date.
Credits: 4
The history of major theological and institutional changes among Protestants, Catholics, Jews from the Civil War to date.

REL 3130 Religion in Contemporary American Culture.
Credits: 4
Major religious movements and trends in the United States today, as seen through beliefs, practices, memberships and relation to the life of the national culture.

REL 3140 Religion and Society.
Credits: 5
The interaction of religion and social institutions, concerning the ways religious groups influence and are influenced by the sociocultural environment.

REL 3158 Psychological Dimensions of Religious Experience.
Credits: 4
Use of selected readings and clinical data for examination of crisis, conflict, and the sense of transcendence in the human search for meaning.

REL 3172 Religion and Ethics.
Credits: 4
Belief and value systems and their implications for understanding current ethical problems.

REL 3202 Survey of Biblical History and Religion.
Credits: 4
Major events in the Biblical period, and basic themes in the Biblical faith.

REL 3210 Hebrew Scriptures.
Credits: 5
The history, literature and beliefs of the Israelites as reflected in the Biblical text, in the light of modern scholarship.

REL 3243 New Testament.
Credits: 4
The ministry and message of Jesus and the developing faith of early Christianity.

REL 3321 Religions of the West.
Credits: 4
Judaism and Christianity.

REL 3322 Patterns of American Religion.
Credits: 4
A look at the major groupings of religion in the United States, how they differ, what they have in common, the various dimensions of each in their interaction, and their roles in the society of the American people.

REL 3330 Religions of East Asia.
Credits: 4
Buddhism and Chinese-Japanese Religious Thought.

REL 3340 Introduction to Hinduism
Credits: 4
A survey of the main features of the major religious tradition of India which will introduce some of its thought and scriptures, its gods and goddesses, its festivals and pilgrimage centers, its life-cycle rites, and its teachers and leaders down to the present time.

REL 3342 Philosophies of India.
Credits: 4
Aspects of representative systems of thought, with attention to their relation to Indian religious traditions and with an examination of their claims and forms of argument.

REL 3420 Contemporary Religious Thought.
Credits: 4
An attempt to discover what contemporary thinkers are saying about religion and the problems of modern life.

REL 3440 Religion and the Modern Mind.
Credits: 4
An examination of the modern outlook, focusing upon conceptual commitments associated with present cultural styles, with attention to certain critical issues for religion.

REL 3492 Religion and Communism.
Credits: 3
An analysis of the character and challenge of Communism to the religions of the world. An exploration of the ideological conflict between dialectical materialism and the non-material interpretations of reality.

REL 3494 The Human Image in the West: Historical Roots.
Credits: 4
Important literary sources for Western self-understanding. Hellenic, Roman, Hebraic and Medieval statements will be investigated.

REL 3495 The Human Image in the West: Modern Expressions.
Credits: 4
Important statements of Western self-understanding, like those of Descartes, Darwin, and Kafka, associated with the contemporary imagination.

REL 3500 History of Christianity.
Credits: 4
A survey of history of Christianity from ancient to modern times, with emphasis on pivotal personalities.

REL 3600 Introduction to the Study of Judaism.
Credits: 4
A basic introduction to the history, thought, and literature of the Jewish people.

REL 3611 History of the Jewish People 1: 450 B.C.E. to 1800.
Credits: 4
A survey of Jewish history from Ezra and the canonization of the Bible to the Emancipation and Enlightenment.

REL 3612 History of the Jewish People 2: 1800 to Present.
Credits: 4
An investigation of the fundamental movements and events in modern Jewish history.

REL 3620 Philosophies of Judaism.
Credits: 4
An investigation of selected figures and themes in the Jewish philosophical tradition both classical and modern. Various approaches both mystical and rational will be considered. May be repeated with change of content up to a maximum of 12 credits.

REL 3695 Jewish Mysticism, Ancient to Modern.
Credits: 4
Mysticism in Judaism in Biblical, Rabbinic, Medieval and Modern Periods.

REL 3938 Special Topics in Religion.
Credits: 4
May be repeated with change of content up to a maximum of 12 hours.

REL 4112 Seminar in Theology and Contemporary Literature.
Credits: 5; Prereq: REL 3420, or permission of the instructor.
Selected topics in fiction, poetry, and drama studies from the theology-of-culture standpoint; the values and meanings implicit and affirmed in 20th century literature.

REL 4120 Cultural and Intellectual History of American Religion.
Credits: 4
Theological, literary, architectural, and artistic contributions of major religious groups to American life, colonial period to date.

REL 4134 Religion in Southern Culture.
Credits: 4; Prereq: REL 3321, 3322 or work in southern history.
Development of religious life in the South through its history, with particular reference to its interaction with regional culture.

REL 4143 Modern Western Religious Movements.
Credits: 4; Prereq: REL 3321, 3322 or consent of the instructor.
Interaction among belief, institution, and social role in selected major religious cultures in Europe and the Western hemisphere.

REL 4156 Personality Theory and Religious Concepts of Man.
Credits: 4; Prereq: consent of the instructor.
Critical study of methods relating the work of psychologists to religious thinkers.

REL 4177 Special Topics in Religion and Ethics.
Credits: 4
May be repeated with change of content up to a maximum of 12 credits.

REL 4291 Special Studies in New Testament.
Credits: 5; Prereq: REL 3243, or permission of the instructor.
May be repeated with a change of content up to a maximum of 15 credits.

REL 4294 Special Topics in Hebrew Scriptures.
Credits: 5; Prereq: REL 3210 or permission of the instructor.
Advanced study of selected topics in Hebrew Scriptures. May be repeated with change of content up to a maximum of 15 credits.

REL 4304 Seminar in Comparative Religion.
Credits: 5
Major issues or leading themes which are relevant to the study of more than one religious tradition; e.g., the relation among religions, mysticism, myth and symbol. May be repeated with change of content up to a maximum of 15 credits.

REL 4333 Buddhism Seminar.
Credits: 5; Prereq: REL 3330, or consent of instructor.
May be repeated with change of content up to a maximum of 15 credits.

REL 4346 Hindu Tradition in the Modern World.
Credits: 5; Prereq: REL 3340 or permission of the instructor.
Studies in the reformulation of tradition, e.g., the role of Gandhi, the meaning of *dharma* in the modern world; the response to the impact of secularization, the relation of Hinduism to other religions, etc.

REL 4347 Hinduism Seminar.
Credits: 5; Prereq: REL 3340, or consent of instructor.
May be repeated with change of content up to a maximum of 15 credits.

REL 4390 Special Topics in Asian Religions.
Credits: 5; Prereq: permission of the instructor.
May be repeated with change of content up to a maximum of 15 credits.

REL 4407 Medieval Religious Thought.
Credits: 4
An attempt to discover what thinkers in the Middle Ages were saying about religion and the problems of Medieval life.

REL 4460 Special Topics in Religious Thought.
Credits: 4
May be repeated with change of content up to a maximum of 12 credits.

REL 4690 Seminar in Jewish Studies.
Credits: 5
Selected figures and topics in the history of Jewish thought. May be repeated with change of content up to a maximum of 15 credits.

REL 4905 Individual Work. F, W, S, SS.
Credits: 1 to 5; Prereq: 12 hours of religion or consent of department.
Majors or other advanced undergraduates who wish to supplement regular course work by individual studies under guidance. May be repeated with change of content up to a maximum of 15 credits.

REL 4933 Senior Seminar in Religion. W.
Credits: 4; Prereq: Junior or Senior standing and permission of department adviser.
Examination of different approaches to the study of Religion.

Sociology

SOC 4211 Sociology of Religion.
Credits: 4
The sociological perspective on religions; their ideologies and rituals. Social aspects of the religious, and religious aspects of the social. Organized religions, and religions "outside the sacred walls."

THE SOCIAL SCIENCES
College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1979-80

Doherty, H.J., Chairman; Baringer, W.E.; Bentley, G.R.; Blakey, A.R.; Brana-Shute, G.; Burns, A.M.; Colburn, D.R.; Cox, M.G.; Crawford, G.B.; DeStefano, M.T.; Dupree, H.; Lamme, A.J.; McAlister, L.N.; Miller, G.M.; Owen, D.E.; Peek, R.L.; Pleasants, J.M.; Pozzetta, G.E.; Purdy, B.A.; Shenkman, F.A.; Slocum, P.R.; Softley, D.A.; Swann, B.B.; Turner, E.R.; Williams, D.E.; Wilson, H.A.

In satisfaction of the general education requirements in the social sciences, this department offers the following courses titled American Institutions. They are designed to provide an understanding of the great trends and movements of the twentieth century with special reference to American culture and institutions. By providing a synthesis cutting across the traditional disciplines of anthropology, economics, history, political science, geography, and sociology, the department attempts to provide students an opportunity to acquire a balance of breadth and depth of knowledge with which they may better approach an understanding of the modern world.

The regular American Institutions sequence is composed of three courses offered in a logical, related fashion. All students should take SSI 2110 first. Students may choose any one of the following as the second course:

SSI 2120
SSI 2121
SSI 2122
SSI 3127

Students may choose any one of the following as the third course:

SSI 2201
SSI 2221
SSI 3227

(ASN 2001 Asia and its Peoples and SPG 3710 Patterns of Intercultural Communication are also acceptable as third sequence courses.)

Social Sciences—Interdisciplinary

SSI 2110 American Institutions: Culture and the Socializing Institutions. F, W, S, SS.
Credits: 3
An introduction to the study of the culture of the United States emphasizing the concepts of culture and institutions and the formative nature of the domestic, educational, and religious institutions.

ECONOMIC AND POLITICAL INSTITUTIONS

SSI 2120, 2121, 2122, 3127.
Upon completion of SSI 2110, students may elect one of the following courses which develop different approaches to the study of the economic and political aspects of American culture. Students should not elect more than one of these courses.

SSI 2120 American Institutions; the Emergence of the Economic and Political Institutions. F, W, S, SS.
Credits: 3
The historical development of the economic and political institutions of the United States with emphasis upon their roles in modern society.

SSI 2121 American Institutions; Economic and Political Institutions from Minority and Ethnic Group Perspectives. W.
Credits: 3
The development of the economic and political institutions of the United States with special reference to the contributions and problems of national and ethnic groups in nineteenth and twentieth century America.

SSI 2122 American Institutions; The Economic and Political Institutions of Urban America. W.
Credits: 3
The development of the economic and political institutions of the United States with special emphasis upon the emergence of problems peculiar to the urbanized America of the twentieth century.

SSI 3128 American Institutions and Energy Issues. W.
Credits: 3
Exploration of the relationship between America's energy problems and the larger society. The focus is on the historical development of energy sources and the energy crisis and the examination from political and economic perspectives of their impact on American life.

SSI 3262 Utopias: A Quest for Social Reform and Political Ideals. W.
Credits: 4
A study of various types of utopias throughout history which will give students an opportunity to study, analyze, and discuss the concepts underlying them. Emphasis upon study of the political, economic, and sociological organization of each of the planned communities.

AMERICAN INSTITUTIONS IN WORLD PERSPECTIVE

SSI 2201, 2221; ASN 2001; SPC 3710; SSI 3227.
Upon completion of two quarters of American Institutions students may elect one of the following courses which relate the United States to the world scene. Students should not elect more than one of these courses.

SSI 2201 American Institutions in World Perspective. S.
Credits: 3
A cross-cultural analysis of the major institutions of the United States and those of selected significant regiuns of the modern world.

SSI 2221 American Institutions; America's Role in World Affairs. F, W, S, SS.
Credits: 3
The impact of the United States upon the world since the Second World War with special reference to international relations and comparative economic and political systems.

(Note: ASN 2001 Asia and its Peoples and SPC 3710 Patterns of Intercultural Communication are also acceptable as third quarter courses.)

SPECIAL TOPICS COURSES

Upon completion of SSI 2110, students may take SSI 3127; after completion of SSI 2110 and any second term SSI course, students may take SSI 3227.

SSI 3127 American Institutions: Special Topics. W.
Credits: 4
Interdisciplinary study of topics related to the economic and political institutions of the United States. Designed for advanced students. Topics announced annually as offered.

SSI 3227 American Institutions: Special Topics. S.
Credits: 4
Interdisciplinary study of topics related to the role of the United States in world affairs or in the perspective of other cultures. Designed for advanced students. Topics announced annually as offered.

SEMINAR STUDY

Seminar courses may be taken whenever offered, with the permission of the instructor.

SSI 2935 Seminar in American Institutions. F, W, S.
Credits: 3
Directed investigations into broad topics encountered in the study of the institutions of American culture, utilizing the methodology of the social sciences for an interdisciplinary approach to topics. May be repeated with change of content up to a maximum of 9 credits.

HONORS COURSES

SSI 2114-2124-2224 American Institutions; College Honors. 2114-F, 2124-W, 2224-S.
Credits: 3 each
An interdisciplinary study of American Institutions specially structured to the abilities of qualified students. Admission by invitation only.

SPECIAL SERVICES COURSES

SSI 2116, 2126, 2226 American Institutions. 2116-SS, 2126-F, 2226-W.
Credits: 3 each
Content consistent with the goals of SSI 2110, 2120, 2221, structured to the abilities of qualified students. Admission by invitation only.

Descriptions

SOCIOLOGY

SOCIOLOGY
College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1979-80

Gorman, B.L., Chairman; Agresti, B.; Beeghley, L.; Berardo, F.M.; Bock, E.W.; Crandall, L.A.; Frazier, C.E.; Henderson, G.G.; Henderson, R.D.; Henretta, J.C.; Holzer, C.E.; LaGreca, A.J.; Leslie, G.R.; McCoy, T.L.; O'Rand, A.M.; Radelet, M.; Rambo, P.B.; Rexroat, C.; Richards, P.; Robbins, C.L.; Streib, G.F.; Terry, W.C.; Vandiver, J.S.; Vera, H.O.; Warheit, G.J.; Wood, C.H.

A sociology major requires 40 hours of course work in sociology and STA 3013. SOC 2000, SOC 4500 and SOC 4640 must be taken by all majors. Additional sociology courses used to complete the 40 hours minimum may be selected by students to match their interests in different substantive areas. However, at least 30 hours of sociology credit must be attained in courses numbered 3000 or higher.

All sociology majors and those considering sociology as major are encouraged to contact a departmental advisor in Room 3108 GPA for help in planning a program.

HONORS IN SOCIOLOGY

Sociology majors may earn departmental honors by (a) completing the three courses in Masterpieces in Social Sciences (SSI 4601, 4602, and 4603) or two graduate level seminars and (b) by achieving an overall sociology grade point average of 3.5 or higher. Admission to the program is granted to students who have completed at least 16 hours of sociology credits with a sociology grade point average of 3.5 or higher. Students interested in entering the honors program should consult a department advisor or the undergraduate coordinator.

Demography and Human Ecology

DHE 4101 Populations. S.
Credits: 4; Prereq: SOC 2000.
Characteristics and trends in the population of the contemporary world. Historical and current growth patterns related to resource conservation, food production, and modernization in various regions of the world.

DHE 4200 Population Policy. W.
Credits: 4
Review of past and current U.S. population policies. Formulation of policy in the light of numerous criteria and goals. Direct and indirect consequences of selected policies, their implementation and evaluation.

GRADUATE COURSES

DHE 6110 Seminar in Population.
Credits: 4

DHE 6111 Seminar in Latin American Population.
Credits: 4

DHE 6205 Population Policy.
Credits: 4

DHE 6453 Seminar in Demographic Processes and Methods.
Credits: 4

Marriage and Family

MAF 2200 Marriage and the Family. F, W, S, SS.
Credits: 4
Development of masculine and feminine roles. Recent changes in premarital interaction: dating, sexual involvement, coed dorm living, living together. Marital adjustment and parenthood. Alternative life styles, including group marriage, communal living, and open marriage.

MAF 4400 The Sociology of Human Sexuality. S.
Credits: 4; Prereq: SOC 2000.
Social sources and social consequences of ideas concerning human sexuality as they emerge from sociological study of Western and non-Western thought.

MAF 4501 The American Family. F, S, SS.
Credits: 4; Prereq: SOC 2000.
The impact of rapid social changes upon families: racial, class, and ethnic variations. The liberation of women and changing family roles. Alternative life styles and the future of the family.

MAF 4510 Comparative Family Systems. W.
Credits: 4; Prereq: SOC 2000.
An intercultural and historical analysis of the family. Emphasizes development of the Western family. U.S. kinship system within the historical and intercultural context.

GRADUATE COURSES

MAF 6405 The Sociology of Human Sexuality.
Credits: 4

MAF 6507 The American Family.
Credits: 4

MAF 6515 Comparative Family Systems.
Credits: 4

MAF 6601 Seminar in Family Theories.
Credits: 4

MAF 6611 Seminar in Family Research.
Credits: 4

Social Sciences — Interdisciplinary

SSI 4601 Masterpieces in Social Science 1. F.
Credits: 4; Prereq: Advanced standing and some work in the social sciences.
Reading of early classics in economics, history, political science, sociology, and cultural anthropology.

SSI 4602 Masterpieces in Social Sciences 2. W.
Credits: 4; Prereq: Advanced standing and some work in the social sciences.
Reading of similar classics from the 19th century.

SSI 4603 Masterpieces in Social Sciences 3. S.
Credits: 4; Prereq: Advanced standing and some work in the social sciences.
Reading of similar classics from the 20th century.

Social Work

SOW 3001 The Field of Social Work.
Credits: 4; Prereq: SOC 2000.
Factors influencing the growth and development of social work. Application of sociological principles to social work activities. Field visits to welfare agencies.

SOW 3033 Methods in Social Work.
Credits: 4; Prereq: SOW 3001.
Methods relating to social case work, social group work, social administration and social research. Supervised field work.

Sociology

SOC 2000 Principles of Sociology. F, W, S, SS.
Credits: 4
Introduction to sociology as a social science, and analysis of American society. Culture, socialization, deviance, bureaucracy, population, urbanization, social stratification, and minorities.

SOC 2020 Social Problems. F, W, S, SS.
Credits: 4
The development, analysis, and treatment of social problems. Crime, poverty, prejudice and discrimination, pollution and environmental despoilation, drug abuse, mental illness, and others. Special attention to factors in U.S. society that cause social problems.

SOC 3022 Poverty. F, S.
Credits: 4; Prereq: SOC 2000.
The social, cultural, economic, political, and psychological implications of being poor. Sources of poverty in the structure and operation of society: consequences of poverty for society. Current and feasible policies for easing the problem. Basically, a survey of the contemporary United States, but with references to the U.S. past and to other nations both developed and undeveloped.

SOC 3300 Community Growth and Change. F.
Credits: 4; Prereq: SOC 2000.
Analysis of community power, community change and alternative community structures. Historical influences and implications for the future.

SOC 3310 Urban Sociology. F, S.
Credits: 4; Prereq: SOC 2000 or consent of department.
The development of cities, and their spatial and social structure. Critical problems and solutions. Integration of people in the social setting. Social implications of city planning.

SOC 3320 Rural Sociology. W.
Credits: 4; Prereq: SOC 2000 or consent of department.
The organization of rural societies and rural institutions. Modernization and social change. Special attention to Third World nations.

SOC 3331 Latin American Societies. F.
Credits: 4; Prereq: SOC 2000.
Latin American culture and social structure. Historic, geographic, economic, social, and population characteristics of Latin American nations. Spanish, Portuguese, English, and American exploitation of Latin America.

SOC 3745 Minorities in American Society. F, S, SS.
Credits: 4; Prereq: SOC 2000.
Sociological analysis of the structure, social processes, and efforts to effect change, of racial, ethnic, and religious minorities.

SOC 3830 Society and the Individual. F, W, S, SS.
Credits: 4; Prereq: SOC 2000.
Relation of the individual to his social environment with special reference to person perception, self formation, self disclosure, attitude formation and change, and group structure and processes. Social forces that shape the lives of individuals, and how individuals adjust to modern society.

SOC 4001 Advanced General Sociology. F, W, S, SS.
Credits: 4; Prereq: 12 hours of sociology.
Intensive study at an advanced level of the general principles of sociology.

SOC 4040 Special Study in Sociology.
Credits: 4; Prereq: 12 hours of sociology.
Pro-seminar study on specialized topics. May be repeated for credit with change of content for a maximum of 12 hours.

SOC 4130 Juvenile Delinquency. W.
Credits: 4; Prereq: SOC 2000.
Theories and research on delinquency. Sociological analysis of the juvenile justice system.

SOC 4150 Criminology. F, S.
Credits: 5; Prereq: SOC 2000.
Nature and causes of crime and criminality. Sociological analysis of criminal law and criminal justice agencies. Effects on the individual of being defined as criminal.

SOC 4211 Sociology of Religion. W.
Credits: 4; Prereq: SOC 2000.
The sociological perspective on religions; their ideologies and rituals. Social aspects of the religious, and religious aspects of the social. Organized religions, and religions "outside the sacred walls."

SOC 4230 Social Factors in Health and Illness. F.
Credits: 4; Prereq: 12 hours of sociology.
Effects of group characteristics in the causation, amelioration, and prevention of mental and physical illness and social influences in medical education, medical practice, and hospital administration.

SOC 4241 Social Gerontology. F.
Credits: 4; Prereq: SOC 2000.
Social and personal conditions of post-retirement years; family and housing patterns, income, leisure, health, group processes, and evaluation of institutional care for the aged.

SOC 4243 Sociology of Death and Survivorship.
Credits: 4
The sociological dimensions of death, bereavement, and widowhood; ritualistic customs and behavior associated with death on both intra-and cross-cultural bases; contemporary issues associated with death-related phenomena; social and environmental factors affecting survivor adaptation.

SOC 4262 Occupations and Professions
Credits: 4; Prereq: E.G. SOC 2000.
Work as a human activity. Occupations and professions as mediators between individuals and society. The occupational world. Work and its organization in relation to power, deviance, health, aging and other social phenomena.

SOC 4410 Social Inequality. F.
Credits: 4; Prereq: SOC 2000.
The unequal distribution, among individuals and groups of wealth, power, and prestige; the effect of class systems upon society; the effect of class membership on individuals; social mobility.

SOC 4422 Complex Organizations. W.
Credits: 4; Prereq: 12 hours of sociology or equivalent foundation in Educational Administration, Industrial and Systems Engineering, Management, or Political Science.
The behavior of individuals and systems in formal organizations; bureaucratic models; government, hospital, church, school, industry, etc., as manifestations of a common principle.

SOC 4432 Social Movements. S.
Credits: 4; Prereq: SOC 2000.
Sociological, sociopsychological, and natural history analyses of the determinants, processes, and functions of nativistic, reform, protest secessionist, cultic, communal, and revolutionary movements.

SOC 4462 Modernization in Latin America.
Credits: 4; Prereq: SOC 2000.
Definition and measurement of modernization. Cultural, social, and demographic causes and consequences of modernization in Latin America. The dependency model in Latin American development.

SOC 4500 Methods of Social Research. F, W, S, SS.
Credits: 5
Introduction to the scientific method and its application to social science research. Research design, data collection, and selected topics related to data analysis and interpretation. (No statistics).

SOC 4620 Comparative Sociology: Theory and Methods.
Credits: 4; Prereq: Senior standing.
Analysis of regularities and differences among societies. The importance of cross-societal research for building sociological theories.

SOC 4640 Development of Sociological Thought. F, S.
Credits: 4; Prereq: 8 hours of sociology.
Comparative study of the major ideas of the principal contributors to the development of sociology. Emphasizes relevance of these ideas to contemporary social thought and current social issues.

SOC 4720 Black America: Current Problems. W.
Credits: 4; Prereq: SOC 3745.
A survey of social conditions, social institutions, and group leadership among Afro-Americans today.

SOC 4831 Personality and Social Structure. W.
Credits: 4; Prereq: SOC 3830 or equivalent.
The impact of social structure upon the statuses and roles of individual human beings. Personality development, role behavior, adult socialization, self image, and self evaluation; and the effects of assigning persons to different social positions.

SOC 4850 Collective Behavior. W.
Credits: 4; Prereq: SOC 2000.
The dynamics, determinants, and significance of panicking, rioting, grieving, and celebrating crowds and of diffuse forms of fads, fashions, scandals, deviant epidemics and mass behavior. Study of the community dynamics and role of publics and public opinion in contemporary society.

SOC 4905 Individual Work. F, W, S.
Credits: 4; Prereq: 12 hours of sociology and consent of department.
Designed to permit students to work in areas not covered in regularly scheduled courses. May be repeated for credit up to 8 hours with change of content.

GRADUATE COURSES

SOC 5905 Individual Work.
Credits: 1 to 5

SOC 5933 Special Study in Sociology.
Credits: 4

SOC 6050 Advanced General Sociology.
Credits: 4

SOC 6115 Deviance.
Credits: 4

SOC 6135 Juvenile Delinquency.
Credits: 4

SOC 6155 Criminology.
Credits: 5

SOC 6175 Research Problems in Deviance.
Credits: 4

SOC 6235 Social Factors in Health and Illness.
Credits: 4

SOC 6236 Comparative Studies in Health Systems.
Credits: 4

SOC 6237 Health Facilities in the Modern Community.
Credits: 4

SOC 6238 Health Professions in the Modern Community.
Credits: 4

SOC 6244 Sociology of Death and Survivorship.
Credits: 4

SOC 6246 Social Gerontology.
Credits: 4

SOC 6247 The Sociology of the Aged.
Credits: 4

SOC 6312 Seminar in Urban Ecology.
Credits: 4

SOC 6314 Seminar in Comparative Urbanization.
Credits: 4

SOC 6315 Seminar in Metropolitan Growth and Development.
Credits: 4

SOC 6321 Seminar: Sociology of Rural Development.
Credits: 4

SOC 6335 Seminar in Brazilian Society.
Credits: 4

SOC 6336 Seminar in Spanish American Societies.
Credits: 4

SOC 6337 Seminar in Contemporary African Societies.
Credits: 4

SOC 6415 Social Inequality.
Credits: 4

SOC 6426 Complex Organizations.
Credits: 4

SOC 6435 Social Movements.
Credits: 4

SOC 6466 Modernization in Latin America.
Credits: 4

SOC 6501 Methods of Social Research.
Credits: 5

SOC 6502 Social Research Methods.
Credits: 4

SOC 6506 Survey Research.
Credits: 5

SOC 6616 Basic Sociological Theories.
Credits: 4

SOC 6625 Comparative Sociology: Theory and Methods.
Credits: 4

SOC 6630 Theory Construction.
Credits: 4

SOC 6646 Development of Sociological Thought.
Credits: 4

SOC 6647 The Development of Sociological Theories.
Credits: 4

SOC 6748 Seminar in American Minority Groups.
Credits: 4

SOC 6808 Seminar in Symbolic Interaction.
Credits: 4

SOC 6827 Ethnomethodology.
Credits: 4

SOC 6832 Personality and Social Structure.
Credits: 4

SOC 6855 Collective Behavior.
Credits: 4

SOC 6905 Individual Work.
Credits: 1 to 5

SOC 6910 Supervised Research.
Credits: 1 to 5††

SOC 6940 Supervised Teaching.
Credits: 1 to 5††

SOC 6971 Master's Research.
Credits: 1 to 15††

SOC 7285 Research in Educational Sociology.
Credits: 5

SOC 7503 Seminar in Methods of Social Research.
Credits: 4

SOC 7657 Seminar in the Sociology of Knowledge.
Credits: 4

SOC 7933 Special Study in Sociology.
Credits: 4

SOC 7935 Advanced Study in Sociology.
Credits: 5

SOC 7980 Doctoral Research.
Credits: 1 to 15††

††Grading is on S-U basis only.

SOIL SCIENCE

SOIL SCIENCE
College of Agriculture

INSTRUCTIONAL STAFF 1979-80

Eno, C.F., Chairman; Blue, W.G.; Berkheiser, V.E.; Caldwell, R.E.; Carlisle, V.W.; Davidson, J.M.; Fiskell, J.G.A.; Graetz, D.A.; Hallmark, C.T.; Hammond, L.C.; Herbert, J.H.; Hortenstine, C.C.; Hubbell, D.H.; Mansell, R.S.; Myhre, D.L.; Popenoe, H.L.; Pritchett, W.L.; Rao, P.S.C.; Rhue, R.D.; Robertson, W.K.; Rothwell, D.F.; Sartain, J.B.; Spinks, D.O.; Street, J.J.; Volk, B.G.; Yuan, T.L.

SOS 3003 The Soil—A Dynamic Multiple Resource. W, SS.
Credits: 2
General background course for students interested in primary and secondary education, real estate, landscape architecture, and others who wish to gain an appreciation of soils as a living resource in our environment. Materials presented will be relevant to the use of soils for a wide variety of urban, industrial, agricultural, and recreational purposes. Not available for major credit.

SOS 3007 Tropical Soils and Their Environment. W.
Credits: 3; Prereq: One course in chemistry.
Soils in relation to tropical ecology and land management systems in agricultural development. For students who desire a cultural understanding of tropical agriculture. Not available for major credit.

SOS 3022C General Soils. F, W, S, SS.
Credits: 5; Prereq: CHM 2040.
Fundamentals of soil science emphasizing their physical, chemical, and biological properties in relation to plant growth.

SOS 3215C Agriculture and Environmental Quality. W, SS.
Credits: 4
Analysis of effects of agriculture on environmental quality; emphasis on agricultural wastes and practices; potential for using agricultural systems for disposal of other wastes; effects of pollution on the agricultural environment.

SOS 4115 Fertilizers and Soil Fertility. F, S.
Credits: 4; Prereq: SOS 3022.
Formulation, manufacture, and use of commercial fertilizers with reference to economical aspects, methods of application, and effects on soil reactions.

SOS 4303 Soil Microbiology. F.
Credits: 4; Prereq: SOS 3022 and APB 2170.
Occurrence and activities of soil microorganisms and their influence on soil productivity.

SOS 4404C Soil Chemistry. F, S.
Credits: 4; Prereq: SOS 3022 and CHM 2042.
Fundamental relationships of the soil chemical factors and plant growth. The effect of organic matter, soil colloids, cation exchange, acidity, and liming on plant nutrient availability.

SOS 4602 Soil Physics. W.
Credits: 3; Prereq: SOS 3022.
Physical properties of soils as related to use, emphasizing plant growth.

SOS 4715 Soil Genesis and Classification. W.
Credits: 4; Prereq: SOS 3022 and GLY 2015.
Morphology of soils, pedogenic processes, factors of soil formation, soilscapes and soil bodies, soil taxonomy, and interpretations of soil maps.

SOS 4718 Soils of Florida. F.
Credits: 3; Prereq: SOS 3022 and SOS 4715, or consent of instructor.
Distribution and evaluation of Florida soils for agricultural, residential, industrial, and recreational uses. Basic geological relationships and factors of formation determining profile characteristics. Field trip required.

SOS 4732 Soil Survey. S.
Credits: 4; Prereq: SOS 3022.
Nature, purposes, and uses of soil surveys. Preparation of soil legends, detailed mapping of an assigned area, and completion of a soil map and survey report.

SOS 4905 Individual Work. F, W, S, SS.
Credits: 1 to 3; Maximum of 3 credits; Prereq: 8 credits of soils and permission of the instructor.
Selected topics for qualified students.

SOS 4941 Full Time Practical Work Experience in Soil Science. F, W, S, SS.
Credits: 1 to 4; S-U Grade only. Prereq: Prior arrangement with adviser, approval of Department Chairman and Dean.
Practical work must be a new experience and related to field of study.

GRADUATE COURSES

SOS 5132 Tropical Soils. W.
Credits: 3

SOS 6136 Soil Fertility.
Credits: 4

SOS 6233 Forest Soils.
Credits: 4

SOS 6323 Soil Microbiology.
Credits: 3

SOS 6325L Soil Microbiology Laboratory.
Credits: 3

SOS 6414 Soil Chemistry.
Credits: 5

SOS 6418 Micronutrients in Soils.
Credits: 3

SOS 6424 Laboratory Methods of Soil Chemical Analysis.
Credits: 4

SOS 6444 Soil Organic Matter and Organic Soils.
Credits: 5

SOS 6454 Colloidal and Physical Chemistry of Soils.
Credits: 5

SOS 6464 Soil Mineralogy.
Credits: 5

SOS 6622 Soil Physics.
Credits: 4

SOS 6717 Soil Genesis and Classification.
Credits: 4

SOS 6752 Morphology of Florida Soils.
Credits: 1

SOS 6905 Non-Thesis Research.
Credits: 1 to 6

SOS 6910 Supervised Research.
Credits: 1 to 5††

SOS 6931 Seminar.
Credits: 1

SOS 6932 Topics in Soils.
Credits: 4

SOS 6940 Supervised Teaching.
Credits: 1 to 5††

SOS 6971 Master's Research.
Credits: 1 to 15††

SOS 7980 Doctoral Research.
Credits: 1 to 15††

††Grading is on S-U basis only.

SPEECH

College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1979-80

Abbott, T.B., Chairman; Clark, A.J., Coordinator of Graduate Studies; Williams, D.E., Coordinator of Undergraduate Studies; Abbott, T.B.; Brown, D.R.; Brown, W.S., Jr.; Bzoch, K.R.; Carpenter, R.H.; Clark, A.J.; Cutler, W.H.; Dew, D.; Gerhardt, K.J.; Goldstein, L.P.; Hammer, L.C.; Hollien, H.; Jensen, P.J.; Kemker, F.J.; LaPointe, L.L.; Lombardino, L.J.; Markel, N.N.; Moore, G.P.; Mutch, P.J.; Nattress, M.P.; Paige, A.; Rothman, H.B.; Schmidt, P.L.; Scholes, R.J.; Scroggie, E.; Teas, D.C.; Tew, R.E.; Waldron, C.M.; Williams, D.E.; Williams, W.N.

SPEECH MAJOR

Students majoring in speech are expected to complete approximately 50 hours of acceptable courses in the department as well as the College requirements for graduation. Majors are advised to work out a planned program with a Speech Department advisor in their major area (speech pathology, audiology, public communication, language sciences, phonetic sciences, or behavioral communication). When signed by the department advisor the planned program will constitute the student's contract for graduation.

Regardless of area specialization, all students majoring in Speech shall satisfactorily complete SPC 2300, Introduction to Speech Communication, or its equivalent.

Transfer students must satisfactorily complete not fewer than 30 credit hours in Speech at the University of Florida to complete a major in the Department.

MAJOR HONORS PROGRAM

To be eligible for admission into the Departmental Honors program, the student must have a GPA of 3.2 overall and in Speech, and must have completed at least 18 credits in Speech. To graduate with Departmental Honors, the student must have GPA of 3.3 in the major and 3.5 average for a minimum of 4 credits in SPC 4931 "Honors in Speech."

Communication

COM 3310 Research Methods in Behavioral Communication. F, W, S.
Credits: 4
Explores scientific methods of investigation and accompanying issues and concepts necessary to behavioral communication research. Studies those factors which facilitate the development of knowledge in the area.

COM 4110 Seminar in Communication Contexts. W, S.
Credits: 4; Prereq: SPA 2300 and consent of instructor, repeatable up to 12 hours.
Explores the role of speech communication in such contexts as organizations, the family, and clinical situations. May be repeated with change of content.

GRADUATE COURSES

COM 6121 Seminar — Organizational Speech Communication.
Credits: 4

COM 6300 Introduction to Graduate Study.
Credits: 4

COM 6316 Quantitative Research in Speech 1: Applied Methodologies.
Credits: 4

COM 6318 Measurement in Speech Communication.
Credits: 4

COM 6320 Quantitative Research in Speech 2: Laboratory Methodologies.
Credits: 4

COM 6350 Methods of Theory Construction in Speech.
Credits: 4

Linguistics

LIN 2701 Introduction to Psycholinguistics. F, W, S, SS.
Credits: 3; Prereq: SPC 2300.
An introduction to the history, scope, problems and present state of the psychology of language. Includes survey of theories and methods of the several disciplines concerned with the scientific study of language.

LIN 2711 Phonetic Theory. F, W, S, SS.
Credits: 4; Prereq: SPC 2300.
An introduction to the distinctly human processes of speech production and perception, including a broad treatment of the physiology of the systems, the nature of the phonetic code and the acquisition of speech.

LIN 3200 Phonetic Transcription. F, W, S, SS.
Credits: 3; Prereq: SPC 2300.
Intensive training in the use of the International Phonetic Alphabet (IPA) for transcribing phonetic elements of General American English

LIN 3700 Language and the Brain. F, S.
Credits: 3
How sentences are produced, understood, and remembered by the human language user. Linguistic studies of aphasia, mental retardation, and selected communicative skills such as reading will be considered.

LIN 3710 Children's Speech. F, W, SS.
Credits: 4
An introduction to theoretical and practical aspects of speech and language development, beginning at birth, during infancy, and ending in later childhood.

LIN 4231 Advanced Phonetic Transcription. W, SS.
Credits: 3; Prereq: LIN 3200.
Intensive training in the use of the International Phonetic Alphabet (IPA) for transcribing Phonetic elements of regional and cultural dialects in the United States, misarticulations in English, and foreign languages.

LIN 4233 Advanced Phonetics and Phonemics. S.
Credits: 3; Prereq: LIN 3200.
Study of the sounds of spoken English. Detailed examination of dialect differences, the phonemic structure of English, phonemic theory, and the description of non-language sounds. Includes transcription practice.

LIN 4260 Phonetic Theory. F, W, S.
Credits: 4; Prereq: LIN 2711 and 2701.
The physiologic, acoustic, and perceptual study, analysis and evaluation of speech sounds in differing contexts within the English language. Theories of speech production and perception will be linked to phonetic analysis of American English.

LIN 4290 Contemporary Issues in Phonetic Sciences. W, S, SS.
Credits: 4; Prereq: SPA 2711 and 2701.
Designed to explore current topics in Phonetic Sciences, e.g., Speaker Identification, Speech Processes, Models of Speech Production/Perception. Discussions of the selected topic will include: background information, current status, experimental questions, methodologies and future consideration for research.

LIN 4905 Individual Study. F, W, S, SS.
Credits: 1 to 4; Available by permission of instructor and department chairman.
A project, reading, or research course. May be repeated with change of content up to a maximum of 8 credits.

GRADUATE COURSES

LIN 5231 Advanced Phonetics and Phonemics.
Credits: 5

LIN 5715 Language Acquisition.
Credits: 4

LIN 6705 Psycholinguistics.
Credits: 5

LIN 6705L Psycholinguistics Laboratory.
Credits: 3

LIN 6707 Experimental Linguistics.
Credits: 5

LIN 6716 Child Language.
Credits: 3

LIN 7195 Seminar in Experimental Linguistics.
Credits: 3

LIN 7295 Seminar in Experimental Phonetics.
Credits: 3

LIN 7709 Seminar in Psycholinguistics.
Credits: 3

Speech Communication

SPC 2050 Voice and Articulation. F, S.
Credits: 3
Designed to establish good habits of speech via study of voice and articulation disorders. Includes practice in overcoming speech problems.

SPC 2260 Criticism and Interpretation of Oral Discourse. F, W, S, SS.
Credits: 3
Concerned with aesthetic and critical judgments of speech. Examination of the act of speech in a variety of performance situations. Special emphasis is placed on how one judges the quality of oral interpretation, the voice, and aesthetic dimensions of the speaker/audience relationship.

SPC 2300 Introduction to Speech Communication. F, W, S, SS.
Credits: 5
An introduction to the principles and procedures that promote effective communication. Concerned with the functions that speech communication serves for man. Examination of the various contexts in which communication occurs and constraining factors that affect communication.

SPC 2330 Introduction to Nonverbal Communication. F, W, S, SS.
Credits: 3; Prereq: SPC 2300.
Survey of the various modes of communicating nonverbally, including use of the voice, body and eyes, physical appearance, touch, distancing, time usage and manipulation of the environment. Examination of the role of nonverbal communication in various contexts and in relation to verbal communication. Practical experience in observing and analyzing nonverbal cues.

SPC 3210 Theories of Human Communication. F, W, S, SS.
Credits: 5; Prereq: SPC 2300, and 8 credits in speech.
A thorough examination of theoretical approaches to human communication. Concerned with understanding how theory and research contribute to knowledge io the speech discipline. Intended to provide synthesis of material in speech-major core.

SPC 3250 General Semantics in Spoken Language. F, W, S, SS.
Credits: 4; Prereq: SPC 2300.
Investigation of problems implicit in oral language usage through the study of general theory of symbols.

SPC 3301 Interpersonal Communication. F, W.
Credits: 4; Prereq: SPC 2300.
Explores interaction in face-to-face settings, including both dyadic and small group communication. Focuses on how communication fosters attraction, productivity, leadership, conflict and conflict resolution, and cohesion.

SPC 330S Creative Communication: Persons and Interactions. W.
Credits: 3; Prereq: SPC 2300.
A course employing humanistic learning processes to develop open, accepting and spontaneous interpersonal communicative relationships.

SPC 3420 Discussion and Conference Methods. F, W, S, SS.
Credits: 4; Prereq: SPC 2300.
Designed to acquaint the student with principles, methods and theories of discussion and conference planning, and to assist him in developing leadership and conference skills.

SPC 3440 Group Communication Processes. F, W, S, SS.
Credits: 3; Prereq: SPC 2300.
Basic theory and research on the role of communication in small group discussion, examining information search, debate, and decision-making as communication processes. An introduction to the area of small group communication.

SPC 3513 Argumentation. F, W, S, SS.
Credits: 4; Prereq: SPC 2300.
Study of principles of argumentation as they are applied in oral discourse; analysis of controversial propositions, evidence and modes of reasoning.

SPC 3541 Persuasion. F, W, S, SS.
Credits: 4; Prereq: SPC 2300.
Investigation of the persuasion function of human communication. Concerned with the context in which successful persuasion occurs and the variables that affect influence attempts.

SPC 3594 Intercollegiate Debate. F, W, S, SS.
Credits: 1; Prereq: Satisfactory completion of one quarter of intercollegiate debate participation at the University of Florida before first registration in this course.
Analysis of propositions of fact, policy, and definition; library research methods; formal debate structure; participation in intercollegiate debate. May be repeated for maximum of 6 credits.

SPC 3601 Public Speaking. F, W, S, SS.
Credits: 4; Prereq: SPC 2300 or consent of Department Chairman.
Theory and practice in public speaking. Special consideration of audience and situational adaptation, support and organization of ideas, audience attention, and effective delivery.

SPC 3605 Speechwriting. W.
Credits: 4; Prereq: SPC 2300.
Consideration of and practice with word choice and word arrangement as sources of style that influence memorability, credibility, and ease and accuracy of comprehension.

SPC 3680 Rhetorical Criticism. S.
Credits: 4
Exploratory readings and analysis of a spectrum of empirical and speculative theorists on the nature, practice, and criticism of oral discourse with persuasory intent.

SPC 3710 Patterns of Intercultural Communication. F, W, S, SS.
Credits: 4; Prereq: SPC 2300.
Exploration of practices, trends, and difficulties of communicating across cultural boundaries; investigation of guidelines by which cross-cultural communication problems can be mitigated.

SPC 3721 Interracial Communication. S.
Credits: 4; Prereq: SPC 2300.
Designed to promote better interracial understanding and interaction among students through the study of the theoretical aspects of interracial communication and through actual student participation in interracial discussion groups.

SPC 4390 Seminar in Interpersonal Communication Processes. F, W.
Credits: 4; Prereq: SPA 2300; repeatable up to 12 hours.
Rotating topic seminar exploring such interpersonal communication processes as non-verbal communication, group and sex roles and communication, and the communication processes associated with group decision-making.

SPEECH

SPC 4392 Seminar in Interaction Analysis. S.
Credits: 4, Prereq: SPC 2300; repeatable up to 12 hours.
Rotating topic seminar exploring issues, trends, and methods of analyzing interpersonal interaction, including measurement of the quality, content, and amount of communication; topics such as process measurement, field observation, and therapeutic intervention.

SPC 4514 Seminar in Evidence. S.
Credits: 4; Prereq: SPC 3513.
Advanced study in theories of argument, with emphasis on pragmatic and ethical considerations in the application of the art.

SPC 4540 Persuasion and Opinion Formation. W.
Credits: 4; Prereq: SPC 2300 and consent of instructor.
Advanced studies in theories of persuasion and investigation of how persuasive communication shapes public opinion. Special consideration given to messages aimed at creating or changing public opinion on contemporary, controversial issues.

SPC 4543 Seminar in Influence Process. F, W, S.
Credits: 4; Prereq: SPA 2300; repeatable up to 12 hours.
Rotating topic seminar exploring such influence processes as the communication of innovations, persuasion and resistance to persuasion, leadership, and communication as power.

SPC 4609 Selected Topics in Public Communication. F, W, S.
Credits: 4; Prereq: SPA 2300 and advanced standing; May be repeated with change of content up to a maximum of 12 credits.
Investigation of focused topics pertaining to theory and practice of speaker-audience communication.

SPC 4620 Great Debates in American Life. W.
Credits: 4; May be repeated with change of content up to a maximum of 12 credits.
Survey of the public speaking in major controversies related to political, social and intellectual life in America.

SPC 4631 Language and Image in Political Communication.
Credits: 4
A study of symbolic sources of rhetorical effectiveness as employed in various genres of communication in political contexts.

SPC 4931 Honors in Speech. W, S.
Credits: 4; Prereq; A 3.2 GPA in upper division coursework including at least 18 hours in speech.
Course will focus on some current investigation in speech and will require an original contribution from each student. Content varies from term to term. May be repeated for a maximum of 8 credits.

GRADUATE COURSES

SPC 5148 Man-Machine Communication.
Credits: 4

SPC 5149 Applications of Digital Computers to Speech Research.
Credits: 3

SPC 5335 Nonverbal Communication.
Credits: 5

SPC 5610 Persuasion in Social Movements.
Credits: 4; Maximum of 12 credits.

SPC 5905 Special Topics.
Credits: 3 to 5; Maximum of 10 credits.

SPC 6218 Seminar: Human Communication Theory.
Credits: 4

††Grading is on S-U basis only.

SPC 6239 Studies in Rhetorical Theory.
Credits: 4

SPC 6253 Principles and Theories of General Semantics.
Credits: 4

SPC 6493 Theories of Small Group Communication.
Credits: 4

SPC 6545 Studies in the Processes of Influence.
Credits: 4

SPC 6619 Seminar in American Public Address.
Credits: 4

SPC 6682 Rhetorical Criticism.
Credits: 4

SPC 6715 Seminar in Intercultural Communication.
Credits: 4

SPC 6905 Individual Study.
Credits: 1 to 10

SPC 6910 Supervised Research.
Credits: 1 to 5††

SPC 6971 Master's Research.
Credits: 1 to 15††

SPC 7190 Seminar in Communication Sciences.
Credits: 3

SPC 7548 Seminar: Theories of Persuasion.
Credits: 4

SPC 7937 Seminar in the Philosophy of Speech Communication.
Credits: 4; Maximum of 8 credits.

SPC 7980 Doctoral Research
Credits: 1 to 15††

Speech Education

SED 4335 Teaching Speech in the Secondary Schools. W, SS.
Credits: 4; Prereq: 8 hours of Speech or consent of instructor.
An analysis of instructional methods and materials in speech at the secondary school level. Designed as a practical guide for the teacher of speech.

EEX 4141 Methods and Materials for Speech Therapy. W.
Credits: 3; Prereq: EDF 3110, ESE 4011, EDE 4203.
Present methods for working as a speech therapist in public schools.

GRADUATE COURSES

SED 5340 Teaching Speech in Higher Education.
Credits: 4

SED 5372 The Modern Forensics Program.
Credits: 4

SED 6930 Seminar; Instructional Development in Speech.
Credits: 4; Prereq: SED 5340 or consent of instructor.

SED 6940 Supervised Teaching.
Credits: 1 to 5††

SED 6943 Internship in College Teaching.
Credits: 3; or multiples of 3, to total of 9.

Speech Pathology and Audiology

SPA 2013 Introduction to Laboratory Technique in Speech.
Credits: 3; Prereq: SPC 2300.
An introduction to basic measurement concepts and tools encountered in psychoacoustics, physiological acoustics, acoustic phonetics, speech pathology and audiology.

SPA 3001 Survey of Communication Disorders. F, W, S, SS.
Credits: 3
Basic principles of Speech pathology including consideration of the types, incidence, recognition and cause of speech and language disorders.

SPA 3011 Speech Acoustics. W.
Credits: 4; Prereq: LIN 2711.
An introduction to scientific methodologies, physics of sound and elementary instrumentation related to human speech communication.

SPA 3101 Speech Physiology. S.
Credits: 4; Prereq: LIN 2711.
An introduction to elementary anatomy, physiology and neurophysiology of the speaking mechanism.

SPA 3102 Fundamentals of Hearing. F, S.
Credits: 4; Prereq: Consent of instructor.
Concepts and principles relevant to the normal hearing processes: acoustics, gross anatomy, psychophysical methods and basic subjective correlates of the auditory system.

SPA 3105 Neurophysiology of Hearing. W.
Credits: 3; Prereq: SPA 3102 and consent of instructor.
Neuroanatomy of the auditory system, peripheral and central dynamics of the cochlea, electrophysiological response in the cochlea and in various levels of the auditory system.

SPA 4051 Laboratory in Clinical Speech Pathology Methods: Observation and Evaluation. F, W, S, SS.
Credits: 1††
Supervised clinical/laboratory experience in speech pathology.

SPA 4052 Laboratory in Clinical Speech Pathology Methods: Remediation. F, W, S, SS.
Credits: 1††
Supervised clinical/laboratory experience in therapy.

SPA 4053 Laboratory in Clinical Audiology Methods: Observation and Evaluation. F, W, S, SS.
Credits: 1††
Supervised clinical/laboratory experience in hearing testing.

SPA 4054 Laboratory in Clinical Audiology Methods: Remediation. F, W, S, SS.
Credits: 1††
Supervised clinical/laboratory experience in aural rehabilitation.

SPA 4118 Psychoacoustics 1.
Credits: S; Prereq: SPA 3102.
Lectures, discussions and laboratory work on auditory stimulus, psychoacoustical methodology: general models of auditory processing.

SPA 4121 Auditory Perception of Speech. SS.
Credits: 3; Prereq: SPA 3102 and consent of instructor.
Concepts and principles relevant to the perception of speech with emphasis on the auditory system: psychophysical methods, test materials, and basic subjective correlates of speech perception.

SPA 4200 Principles of Speech Pathology: Articulation Disorders. W, SS.
Credits: 2; Prereq: SPA 3200, 3001 and 3101 or consent of instructor.
Basic principles of diagnosis and therapy for individuals with articulatory disorders.

SPA 4210 Principles of Speech Pathology: Voice Disorders. F.
Credits: 2; Prereq: SPA 3101, 3001 or consent of instructor.
Theory and techniques of diagnosis and therapy for voice disorders.

SPA 4220 Principles of Speech Pathology: Stuttering. F.
Credits: 2; Prereq: SPA 3001 or consent of instructor.
Theory and technique of diagnosis and therapy for stuttering.

SPA 4302 Principles of Audiological Evaluation. F, W, S, SS.
Credits: 4
Basic techniques in pure-tone and speech audiometry. Interpretation of test results.

SPA 4362 Auditory Training and Speechreading. W.
Credits: 4; Prereq: SPA 4302 or consent of instructor.
Methods in auditory training and speechreading in aural rehabilitation.

SPA 4400 Principles of Speech Pathology; Language Disorders. W.
Credits: 2; Prereq: LIN 2701, SPA 3001 or consent of instructor.
Theory and technique of diagnosis and therapy for language disorders.

GRADUATE COURSES

SPA 5111 Theoretical Foundations of Audiology.
Credits: 4

SPA 5119 Psychoacoustics I.
Credits: 5

SPA 5122 Auditory Perception of Speech.
Credits: 4

SPA 5135 Electro-Acoustical Laboratory.
Credits: 3

SPA 5202 Principles of Speech Pathology: Articulation Phonological Disorders.
Credits: 4

SPA 5211 Principles of Speech Pathology: Voice Disorders.
Credits: 4

SPA 5223 Principles of Speech Pathology: Stuttering.
Credits: 4

SPA 5242 Communicative Disorders Related to Cleft Palate.
Credits: 4

SPA 5304 Principles of Audiological Evaluation.
Credits: 4

SPA 5322 Auditory Training and Speechreading.
Credits: 4

SPA 5403 Principles of Speech Pathology: Language Disorders.
Credits: 3

SPA 5423 Speech and Language for the Deaf and Hard-of-Hearing.
Credits: 4

SPA 5553 Principles of Speech Pathology and Audiology: Diagnosis and Appraisal.
Credits: 2

SPA 6107 Cochlear Biophysics.
Credits: 5

SPA 6120 Psychoacoustics II.
Credits: 5

SPA 6125 Psychophysiology of Hearing.
Credits: 5

SPA 6140 Experimental Phonetics: Laryngeal Function.
Credits: 3

SPA 6141 Experimental Phonetics: Articulatory Dynamics.
Credits: 3

SPA 6145 Experimental Phonetics: Acoustic Theory.
Credits: 3

SPA 6146 Experimental Phonetics: Special Topics.
Credits: 3 to 9; maximum of 9.

SPA 6155 Proseminar in Communication Sciences.
Credits: 5

SPA 6204 Seminar in Speech Pathology: Articulation Disorders.
Credits: 2

SPA 6206 Seminar in Speech Pathology: Myofunctional Disorders.
Credits: 2

SPA 6207 Seminar in Speech Pathology: Neurogenic Articulation Disorders.
Credits: 2

SPA 6214 Seminar in Speech Pathology: Alaryngeal Speech.
Credits: 2

SPA 6215 Seminar in Speech Pathology: Voice Disorders.
Credits: 2

SPA 6216 Seminar in Speech Pathology: Special Voice Problems.
Credits: 2

SPA 6226 Seminar in Speech Pathology: Stuttering in Adults.
Credits: 2

SPA 6227 Seminar in Speech Pathology: Stuttering in Children.
Credits: 2

SPA 6231 Seminar in Speech, Hearing and Language: Cerebral Palsy.
Credits: 2

SPA 6245 Seminar in Speech, Hearing and Language: Cleft Palate.
Credits: 2

SPA 6305 Seminar in Audiology: Children's Audiometry.
Credits: 2

SPA 6313 Seminar in Audiology: Diagnostic Procedures for Peripheral Disorders.
Credits: 4

SPA 6314 Seminar in Audiology: Diagnostic Procedures for Central Hearing Disorders.
Credits: 2

SPA 6318 Seminar in Audiology: Diagnostic Procedures for Special Problems in Hearing.
Credits: 2

SPA 6327 Seminar in Audiology: Aural Rehabilitation.
Credits: 2

SPA 6345 Seminar in Audiology: Hearing Aids.
Credits: 4

SPA 6364 Seminar in Audiology: Psychology of Deafness.
Credits: 2

SPA 6407 Seminar in Speech Pathology: Language Disorders.
Credits: 2

SPA 6410 Seminar in Speech, Hearing, and Language: Aphasia.
Credits: 3

SPA 6411 Seminar in Language Pathology: Childhood Aphasia and Autism.
Credits: 2

SPA 6435 Seminar in Speech, Hearing, and Language: Mental Retardation.
Credits: 2

SPA 6445 Seminar in Language Pathology: Parent-Child Interactions and Language Intervention.
Credits: 2

SPA 6521 Clinical Practice in Speech Pathology: Diagnosis.
Credits: 1 to 10††

SPA 6524 Clinical Practice in Speech Pathology: Therapy.
Credits: 1 to 15††

SPA 6531 Clinical Practice in Hearing Measurement.
Credits: 1 to 10††

SPA 6533 Clinical Practice in Aural Rehabilitation.
Credits: 1 to 10††

SPA 6600 Organization and Administration of Speech Pathology and Audiology Programs.
Credits: 4

SPA 6601 Seminar in Speech Pathology/Audiology: Clinical Supervision.
Credits: 2

SPA 6933 Special Topics in Communication Sciences.
Credits: 1††

SPA 6940 Supervised Teaching.
Credits: 1 to 5††

SPA 7127 Seminar in Speech Recognition.
Credits: 3

SPA 7128 Seminar in Audition.
Credits: 3

SPA 7354 Seminar in Audiology: Hearing Conservation Noise Control.
Credits: 4

SPA 7523 Practicum In Speech Pathology In a Medical Dental Setting.
Credits: 3 to 10††

SPA 7536 Practicum in Audiology in a Medical Setting.
Credits: 3 to 10††

STATISTICS
College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1979-80

Scheaffer, R.L., Chairman; Agresti, A.G.; Boyett, J.M.; Carter, R.L.; Chew, V.; Cornell, J.G.; Kepner, J.L.; Khuri, A.I.; Lezotte, D.C.; Littell, R.C.; Marks, R.G.; Martin, F.G.; McClave, J.T.; Mendenhall, W.; Pop-Stojanovic, Z.R.; Rao, P.V.; Robinson, D.H.; Rosalsky, A.J.; Saw, J.G.; Shuster, J.J.; Wackerly, D.D.; Yang, M.C.K.

An undergraduate major in statistics is offered in both the College of Agriculture and the College of Arts and Sciences. Students planning an undergraduate major in statistics should consult one of the departmental major advisers, Dr. A. I. Rosalsky, 521 Nuclear Sciences Center, or Dr. J. J. Shuster, 511 Nuclear Sciences Center. In preparation for this program the student should take the following courses during the freshman and sophomore years: MAC 3311 and MAC 3312. Upper division courses will include STA 4321, 4322, 4202, 4203, 4204.

The 12 additional hours of the statistics major requirements will consist of CIS, MAC, and STA courses, chosen in consultation with the adviser. Selection will depend on the student's future plans.

Students taking Statistics as a major may receive "Honors in Statistics" if they (1) obtain a 3.1 grade point average in upper division work; (2) obtain a 3.6 grade point average for all major courses; and (3) include a total of at least seven additional hours of approved course work in CIS, STA, or MAC (beyond the requirements for the major).

The minimum number of credit hours required for a degree with a major in statistics is 44.

††Grading is on S-U basis only.

STATISTICS

STA 3013 Statistics for The Social Sciences. F, W, S, SS.
Credits: 4; Prereq: None.
Introduction to descriptive and inferential statistical techniques with applications in the Social Sciences.

STA 3023 Introduction to Statistics 1. F, W, S, SS.
Credits: 4
Development of the fundamental statistical concepts and their relationship to the social and physical sciences.

STA 3024 Introduction to Statistics 2. W, S, SS.
Credits: 3; Prereq: STA 3023 or equivalent.
An introduction to the analysis of variance. Chisquare and contingency tables. Nonparametric statistical methods and applications.

STA 3032 Engineering Statistics. F, W, S, SS.
Credits: 3
A survey of the basic concepts in statistics with engineering application.

STA 4033 Mathematical Statistics with Computer Applications. F, S.
Credits: 3; Prereq: STA 3023 or STA 3032, MAC 3312, COC 3110 or equivalent.
Computer approach to conducting and understanding basic inferential procedures, regression modeling, and non-parametric statistics. Computer emphasis is on program writing, simulation, and statistical packages.

STA 4173 Biometry. S.
Credits: 4; Prereq: STA 4322 or equivalent.
Specialized statistical methods in the medical sciences. Contents include: Large sample theory, Analysis of Survival, Dose response curves, Contingency tables, Clustering in time and space, Semi-Markov models in clinical trials, and Binary regression.

STA 4202 Design of Experiments and Analysis of Variance. F.
Credits: 3; Prereq: STA 3023 or equivalent.
Principles of designing an experiment; the analysis of variance for completely randomized, randomized block and Latin square designs; Factorial experiments.

STA 4203 Regression Analysis. W.
Credits: 3; Prereq: STA 4202.
Simple linear regression; multiple linear regression; correlation methods; non-linear regression.

STA 4204 Introduction to Nonparametric and Multivariate Statistics. S.
Credits: 4; Prereq: STA 4203.
Introduction to nonparametric statistics—analysis of variance by ranks, nonparametric estimation, rank correlation, contingency tables. Introduction to multivariate statistics—nontechnical exposition of discriminant analysis, factor analysis, principal components, and multivariate analysis of variance.

STA 4222 Sample Survey Design. S, SS.
Credits: 3; Prereq: STA 3023 or equivalent.
An introduction to the design of sample surveys in the economic and social sciences. Questionnaire construction, stratified sampling, ratio and regression estimators.

STA 4321 Mathematical Statistics 1. F, W.
Credits: 4; Prereq: MAC 3312.
An introduction to the theory of probability, random variables and their probability distributions. Expectations of random variables. Distribution of functions of variables; introduction to the theory of estimation.

STA 4322 Mathematical Statistics 2. W, S.
Credits: 4; Prereq: STA 4321.
Tests of hypotheses, introduction to least squares, correlation, analysis of variance and design of experiments. Nonparmetric methods.

††Grading is on S-U basis only.

STA 4404 Discrete Probability. F, S.
Credits: 4
Basic probability theory, random variables, probability distributions, and expectations. Application to model building and decision making.

STA 4905 Individual Work. F, W, S, SS.
Credits: 1 to 5; Prereq: permission of department.
Special topics designed to meet the needs and interest of individual students. May be repeated with change of content up to a maximum of 15 credits.

STA 4930 Special Topics in Statistics.
Credits: 3; Permission of the Department chairman.
Special topics designed to meet the needs and interests of individual students. May be repeated with change of content up to a maximum of 15 credits.

GRADUATE COURSES

STA 5106 Computer Programs in Statistical Analysis 1. W.
Credits: 2

STA 5107 Computer Programs in Statistical Analysis 2. S.
Credits: 3

STA 6126 Statistical Methods in Social Research 1.
Credits: 4

STA 6127 Statistical Methods in Social Research 2.
Credits: 4

STA 6166 Statistical Methods in Research 1.
Credits: 4

STA 6167 Statistical Methods in Research 2.
Credits: 4

STA 6168 Advanced Methods of Statistics 3.
Credits: 3

STA 6176 Biostatistics 1.
Credits: 4

STA 6177 Biostatistics 2.
Credits: 4

STA 6178 Biostatistics 3.
Credits: 4

STA 6206 Design and Analysis of Experiments 1.
Credits: 4

STA 6207 Design and Analysis of Experiments 2.
Credits: 4

STA 6208 Design and Analysis of Experiments 3.
Credits: 4

STA 6226 Sampling Theory and Application 1.
Credits: 4

STA 6227 Sampling Theory and Application 2.
Credits: 4

STA 6246 Theory of Least Squares.
Credits: 4

STA 6247 Advanced Topics in Design and Analysis.
Credits: 4

STA 6267 Sequential Methods.
Credits: 4

STA 6326 Introduction to Theoretical Statistics 1.
Credits: 3

STA 6327 Introduction to Theoretical Statistics 2.
Credits: 3

STA 6328 Introduction to Theoretical Statistics 3.
Credits: 3

STA 6446 Probability Theory 1.
Credits: 4

STA 6447 Probability Theory 2.
Credits: 4

STA 6448 Probability Theory 3.
Credits: 4

STA 6526 Nonparametric Statistics 1.
Credits: 4

STA 6707 The Analysis of Multivariate Data.
Credits: 4

STA 6746 Multivariate Analysis 1.
Credits: 4

STA 6747 Multivariate Analysis 2.
Credits: 4

STA 6826 Stochastic Processes 1.
Credits: 3

STA 6827 Stochastic Processes 2.
Credits: 3

STA 6828 Stochastic Processes 3.
Credits: 3

STA 6857 Applied Time Series Analysis.
Credits: 4

STA 6876 Time Series 1.
Credits: 4

STA 6877 Time Series 2.
Credits: 4

STA 6900 Problems in Statistics.
Credits: 1 to 5

STA 6905 Individual Work.
Credits: 1 to 5

STA 6910 Supervised Research.
Credits: 1 to 5††

STA 6934 Special Topics in Statistics.
Credits: 4

STA 6937 Seminar: Current Topics in Statistics.
Credits: 1 to 4††

STA 6938 Seminar.
Credits: 1††

STA 6940 Supervised Teaching.
Credits: 1 to 5††

STA 6971 Master's Research.
Credits: 1 to 15††

STA 7346 Statistical Inference 1.
Credits: 4

STA 7347 Statistical Inference 2.
Credits: 4

STA 7348 Statistical Inference 3.
Credits: 4

STA 7980 Doctoral Research.
Credits: 1 to 15††

THEATRE
College of Fine Arts

INSTRUCTIONAL STAFF 1979-80

Hooks, E. James, Chairman; Bernhard, R.L.; Brandman, R.; Green, R.L.; Maulden, D.C.; Shelton, D.L.; Wehlburg, A.F.C.; West, G.L.

All students who are considering Theatre as a major should consult the departmental academic advisor soon after enrolling in the University. In the Department of Theatre an upper division total of 95 credits is required for the B.F.A. degree. This total must include the following core curriculum: TPA 3200, TPP 3650, TPP 3310, 3311, THE 4945, THE 4110, THE 4111, ENL 4135, ENL 4136, TPA 4230, TPA 4231, THE 4112.

Additional requirements include a 32 credit specialization in either Performance, Design-Technical, Costumes, or Dance.

Also available is a theatre major offered through the College of Liberal Arts and Sciences, leading to the degree Bachelor of Arts.

A total of 45 credits in theatre courses is required for the B.A. degree. The total must include the following core curriculum: ORI 2001, TPP 3110, TPA 3200, TPP 3650, TPP 3310, TPP 3311.

A drama emphasis leading to the B.A. in Education is available through the Language Arts major offered by the College of Education.

Dance

DAN 3500 Dance Production. F, W, S.
Credits: 1 to 3; Prereq: consent of instructor.
Principles and practice of producing dance concerts. May be repeated with change of content up to a maximum of 9 credits.

DAN 4103 Seminar in Dance History and Philosophy. F.
Credits: 4
Survey of the historical development of the art of dance with reference to social contexts, periods and cultures involved; seminars, readings, and observations of various cultural events and audio-visual materials.

Dance Activities

DAA 2101 Modern Dance II. F, W, S.
Credits: 2; Prereq: DAA 1100 and/or consent of instructor.
Modern Dance includes experiences in advanced beginning level technique, readings, observations, and movement exploration. May be repeated with change of content up to a maximum of 6 credits.

DAA 2200 Ballet I. F, W, S, SS.
Credits: 2; consent of instructor.
Elementary Ballet technique with discussion of terminology and style.

DAA 3102 Modern Dance III. F, S.
Credits: 3; Prereq: DAA 2101; consent of instructor.
Modern dance including experiences in intermediate level technique, readings, observations, and movement exploration exercises emphasizing literal expressive modes. May be repeated with change of content up to a maximum of nine credits.

DAA 3700 Dance Composition. F, W, S.
Credits: 2; Prereq: DAE 2320 or consent of instructor.
Modern dance composition with respect to form, design, dynamics, and rhythm.

DAA 4103 Modern Dance IV. W.
Credits: 3; Prereq: DAA 3102; consent of instructor.
Modern dance including experiences in advanced level technique, readings, observations, informal performance, and movement exploration exercises emphasizing nonrepresentational expressive modes. May be repeated with change of content up to a maximum of nine credits.

Dance Education

DAE 2320 Modern Dance Teaching Methods. F, W, S.
Credits: 3
Skills and Teaching techniques.

Oral Interpretation

ORI 2001 Oral Performance of Literature I. F, W, S, SS.
Credits: 4
An introduction to the presentation mode of interpreting literature and drama, with an emphasis on the improvement and specialized application of vocal skills.

ORI 2002 Oral Performance of Literature II. F, W, S, SS.
Credits: 4; Prereq: ORI 2001 and/or permission of instructor.
An advanced study of the presentational mode of interpreting literature and drama with an emphasis on the aesthetic properties of form and style.

GRADUATE COURSES

ORI 6430 Theories of Interpretive Reading.
Credits: 4

Theatre

THE 2000 Theatre Appreciation 1. F, W, S, SS.
Credits: 4
To develop an appreciation of theatre through a study of theatre history and literature. An introduction to forms, styles, and philosophies of theatre from a humanistic approach.

THE 4110 History of the Theatre I. F.
Credits: 4; Prereq: THE 2000, TPA 3200, TPP 3310.
Development of the theatre from its beginning through the Middle Ages.

THE 4111 History of the Theatre II. W.
Credits: 4; Prereq: THE 2000, TPA 3200, TPP 3310.
Development of the theatre from the Middle Ages to the 18th Century.

THE 4112 History of the Theatre III. S.
Credits: 4; Prereq: THE 2000, TPA 3200, TPP 3310.
Development of the theatre from the 18th Century to the present.

THE 4730 Production of Plays in the Secondary School. F.
Credits: 4; Prereq: TPA 3200, TPA 3060 or permission of instructor.
Elements of play production for the secondary school. An emphasis on basic procedures, problems of organization, and facility adaptation and development.

THE 4760 The Teaching of Drama in the Secondary Schools. W.
Credits: 4; Prereq: THE 2000 or permission of instructor.
Practical philosophy of drama education as it functions at the secondary school level.

THE 4905 Individual Study. F, W, S, SS.
Credits: 1 to 4; Prereq: Permission of instructor and Department Chairman.
A project, reading, or research course. May be repeated with change of content up to a maximum of 8 credits.

THE 4945 Theatre Production: A Practicum in Repertory Theatre. SS.
Credits: 1 to 12; Prereq: TPP 3112, TPA 3010, 3270, 4232, and consent of staff.
A practical production experience in repertory theatre with direct skills application in all areas of theatre production, and special emphasis on the problems of organizing a multi-production repertory program.

THE 4949 Individual Co-operative Professional Work Experience.
Credits: 1††; Prereq: 4FA or above classification and consent of instructor and employer.
One term industrial employment including extra work according to pre-approved outline. Practical theatre work under industrial supervision.

GRADUATE COURSES

THE 5116 History of the Theatre I. F.
Credits: 4

THE 5117 History of the Theatre II. W.
Credits: 4

THE 5118 History of the Theatre III. S.
Credits: 4

THE 5949 Individual Co-operative Professional Work Experience.
Credits: 5 to 12

THE 6200 Studies in Contemporary American Theatrical Practices.
Credits: 4

THE 6203 American Plays, Players, and Playwrights I.
Credits: 4

THE 6204 American Plays, Players, and Playwrights II.
Credits: 4

THE 6230 Styles in Theatrical Art I.
Credits: 4

THE 6231 Styles in Theatrical Art II.
Credits: 4

THE 6232 Styles in Theatrical Art III.
Credits: 4

THE 6234 Studies in Contemporary European Theatrical Practices.
Credits: 4

THE 6285 Readings in Theatrical History I.
Credits: 4

THE 6286 Readings in Theatrical History II.
Credits: 4

THE 6287 Art History of the Theatre.
Credits: 4

THE 6521 Seminar in Dramatic Theory and Criticism.
Credits: 4

THE 6561 Seminar in Theatre Aesthetics.
Credits: 4

THE 6905 Individual Study.
Credits: 1 to 10; Prereq: Permission of instructor and Department Chairman.

THE 6910 Supervised Research.
Credits: 1 to 5††; Permission of instructor and Department Chairman.

THE 6913 Theatre Research.
Credits: 4

THE 6940 Supervised Teaching.
Credits: 1 to 5††; Prereq: Permission of instructor and Department Chairman.

THE 6971 Master's Research.
Credits: 1 to 15††

THE 6973 Individual Project.
Credits: 1 to 15††; Prereq: Min. equivalent of year's work completed at graduate level toward MFA degree.

Theatre Production and Administration

TPA 3010 Stagecraft and Design II. W.
Credits: 4; Prereq: TPA 3200 or permission of instructor.
Specialized techniques of stagecraft and design problems.

TPA 3200 Stagecraft and Design I. F, S.
Credits: 4; Prereq: TPP 2000 or permission of instructor.
The basic techniques of scene construction, lighting and painting with an introduction to design principles.

TPA 3220 Technical Theatre Principles. F.
Credits: 4; Prereq: TPA 3010 or permission of instructor.
A study of the specialized techniques and design factors essential to stage scenery, lighting, and costumes.

††Grading is on S-U basis only

TPA 3250 Stage Makeup. W.
Credits: 3; Prereq: THE 2000, TPP 3110.
Study and application of the principles, materials, and procedures for effective execution of theatrical makeup. Majors only, except by permission of instructor.

TPA 3270 Advanced Equipment Utilization. F.
Credits: 5; Prereq: TPA 3200, 3010, 3220 or permission of instructor.
Designed for the advanced student to become conversant with the uses and functions of sophisticated theatre construction tools as used in furniture building, steel construction and properties making. Additionally, principles and application of sound as it is used in the theatre will be covered.

TPA 3290L Theatre Practice. F, W, S.
Credits: 1 to 4
Practical problems in theatre performance and production. An introduction to and practice of the standardized methods and procedures of theatre production.

TPA 4024 Advanced Lighting Design. F.
Credits: 4, Prereq: TPA 3010 or permission of instructor.
Lighting equipment, control, design and aesthetics. Application of the principles of, and responses to, color and light in the theatre.

TPA 4047 Production Costume Design. F.
Credits: 4; Prereq: TPA 4231, 4232 or permission of instructor.
The application of fundamentals of costume design to costume requirements fostered by specific production concepts.

TPA 4063 Scene Design 2. W.
Credits: 4; Prereq: TPA 4060 and/or permission of chairman; freehand drawing.
A continuation of Scene Design as an art: A consideration of the spatial and aesthetic factors operative in the scenic elements with special emphasis on pragmatic consideration of the design process.

TPA 4081 Scene Painting.
Credits: 4; Prereq: Basic knowledge of drawing technique and familiarity with materials; permission of instructor required. Basic knowledge of Scene Design process and theory covered by Scene Design 1.
Scene painting is an introduction to color vocabulary, color theory, and color composition. Student will learn painting and rendering technique for the stage.

TPA 4084 Scene Design 1. F.
Credits: 4; Prereq: TPA 3200, 3010, 3220, 3310 or permission of instructor.
Scene Design as an Art: A consideration of the spatial and aesthetic factors operative in the scenic elements with special emphasis on pragmatic consideration of the design process.

TPA 4100 Architecture and Decoration for the Stage.
Credits: 4; Prereq: Demonstrated proficiency in basic freehand drawing and permission of instructor.
A survey of architectural styles and decorative motiffs throughout history. Project will require research, development, and ability to abstract from various theatrical genres.

TPA 4230 Theatrical Costume I. F.
Credits: 4, Prereq: TPA 3010 or permission of instructor.
The history of stage costume from antiquity to the post-Elizabethan period, and a study of the basic design elements involved. Laboratory experience in costume construction.

TPA 4231 Theatrical Costume II. W.
Credits: 4; Prereq: TPA 4230 or permission of instructor.
The history of stage costume and a study of basic design elements, fabrics and patterns. Laboratory experience in costume construction.

TPA 4232 Theatrical Costume III. S.
Credits: 4; Prereq: TPA 4231 or permission of instructor.
Principles of costume design with construction and design projects.

GRADUATE COURSES

TPA 5048 Production Costume Design. F.
Credits: 4

TPA 5084 Problems in Scene Design. F.
Credits: 4

TPA 6023 Seminar and Practicum in Modern Theatre Design and Practice.
Credits: 4; Maximum of 12 credits.

TPA 6087 Costume Management.
Credits: 4; Prereq: THE 4040, TPA 4041, TPA 4042 or equivalent, and permission of instructor.

TPA 6275 Advanced Equipment Utilization.
Credits: 5; Prereq: TPA 3200, TPA 3060, TPA 3220 or permission of instructor.

TPA 6935 Seminar in Dramatic Criticism, Theory and Analysis.
Credits: 4

Theatre Performance & Performance Training

TPP 2700 Voice and Diction Workshop. F, W, S, SS.
Credits: 4
The performance oriented workshop designed for the development and application of voice and diction skills.

TPP 3110 Acting I. F, S.
Credits: 4; Prereq: ORI 2001 or permission of instructor.
A study of the basic techniques and theories of acting.

TPP 3111 Acting II. W.
Credits: 4; Prereq: TPP 3110 or permission of instructor.
A study of acting styles and their relation to theatre aesthetics.

TPP 3112 Acting III. S.
Credits: 4; Prereq: TPP 3110 and TPP 3111.
Study of the Acting programs inherent in the form and character structure of the period play, with exercises emphasizing delivery and period stage conventions.

TPP 3310 Directing I. W.
Credits 4; Prereq: TPP 3110 and TPA 3200 or permission of instructor.
Basic principles of play direction, including problems of selecting, casting, and rehearsing plays.

TPP 3311 Directing II. S.
Credits: 4; Prereq: TPP 3110, TPA 3200, TPP 3310 or permission of instructor.
Analysis of selected types of dramatic literature for appropriate directing style, and practical experience in directing projects.

TPP 3510 Musical Theatre and Movement 1.
Credits: 4; Prereq: Acting 2 and/or permission of Chairman.
A study of basic technique of musical theatre and stage movement.

TPP 3511 Musical Theatre and Movement 2.
Credits: 4; Prereq: Musical Theatre and Movement 1 and/or consent of Chairman.
A continuation of study of techniques of musical theatre and stage movement emphasizing styles and further developing techniques.

TPP 3512 Musical Theatre 3.
Credits: 4; Prereq: Musical Theatre and Movement 2 and/or permission of Chairman.
The advanced development of acting, singing, and dancing skills culminating in the presentation of a musical comedy revue.

TPP 3650 Production Analysis of the Playscript. F.
Credits: 4; Prereq: permission of instructor.
An analysis of classic and commercial playscripts for the purpose of isolating specialized production problems and identifying the production potential of varied artistic form constructs. For majors only.

GRADUATE COURSES

TPP 5192 Graduate Acting I. F.
Credits: 4; Prereq: TPP 3112 or permission of instructor.

TPP 5294L Summer Repertory Theatre. SS.
Credits: 1 to 12; Prereq: Consent of Staff.

TPP 6193 Graduate Acting II.
Credits: 4; Prereq: THE 5118 or equivalent, and consent of instructor

TPP 6234 Acting Ensemble.
Credits: 4 to 12, Prereq: TPP 6140 or equivalent and permission of instructor.

TPP 6921 Directing Workshop.
Credits: 4 to 12; Prereq: TPP 3650, 3310, 3314 or equivalent, TPP 6934 and permission of instructor.

TPP 6934 Advanced Problems of Stage Direction.
Credits: 5

URBAN AND REGIONAL PLANNING
College of Architecture

INSTRUCTIONAL STAFF 1979-80

Starnes, E.M., Chairman; Alexander, J.F.; Bartley, E.R.; Feiss, C.; Milliman, J.W.; Schneider, R.H.; Weismantel, W.; Wetterqvist, O.F.

Economic Problems & Policy

ECP 6615 Urban Economics.
Credits: 5

Urban & Regional Planning

URP 3001 Cities of the World
Credits: 4
Comparative case studies of contemporary cities in the U.S. and a series of foreign countries both industrialized and developing. Special consideration will be given to energy consumption.

URP 4000 Preview of Urban & Regional Planning.
Credits: 3
This course intended for undergraduates previews planning education by teaching a sensuous model for understanding and planning for urban districts. Several planning faculty members and practicing planners make guest appearances.

GRADUATE COURSES

URP 6061 Professional Administration.
Credits: 1 to 4; max. 4.

URP 6101 Planning Theory.
Credits: 4

URP 6102 Planning Design I.
Credits: 4

URP 6103 Planning Design II.
Credits: 4; Prereq: URP 6102 or permission of instructor.

URP 6131 Community Development Powers I.
Credits: 4

URP 6132 Community Development Powers II.
Credits: 4; Prereq: URP 6131 or permission of instructor.

URP 6133 Community Development Powers III.
Credits: 4; Prereq: URP 6131 and URP 6132 or permission of instructor.

URP 6203 Critical Observation.
Credits: 4

URP 6231 City Models.
Credits: 4

URP 6261 Regiometrics.
Credits: 4

URP 6271 Planning Information System.
Credits: 4

URP 6301 Urban Project.
Credits: 1 to 12

URP 6311 Regional Project.
Credits: 1 to 12

URP 6312 Land Use Planning.
Credits: 4

URP 6331 Component Project.
Credits: 1 to 12

URP 6341 New Program Project.
Credits: 1 to 12

URP 6421 Environmental Impact Evaluation.
Credits: 4

URP 6700 The Capitol Web.
Credits: 4

URP 6801 The Urban Ideal.
Credits: 4

URP 6802 20th Century City and Regional Planning.
Credits: 4

URP 6811 Community Values and Goals.
Credits: 4

URP 6821 Urban and Regional Systems.
Credits: 4

URP 6882 Community Revitalizaton — Conservation Planning.
Credits: 4

URP 6905 Exploration and Directed Study.
Credits: 1 to 9

URP 6910 Supervised Research.
Credits: 1 to 5††; max. of 12.

URP 6931 Graduate Seminar.
Credits: 2 to 5; max. of 9.

URP 6940 Supervised Teaching.
Credits: 1 to 5††; max. of 15.

URP 6971 Master's Research.
Credits: 1 to 15††; max. of 9.

URP 6979 Terminal Project.
Credits: 1 to 9

VEGETABLE CROPS
College of Agriculture

INSTRUCTIONAL STAFF 1979-80

Maynard, D.N., Chairman; Bassett, M.J.; Cantliffe, D.J.; Gull, D.D.; Hall, C.B.; Hannah, L.C.; Kostewicz, S.R.; Locascio, S.J.; Thompson, B.D.

VEC 3100 Introduction to World's Vegetables. F, S.
Credits: 3
Types of vegetables grown throughout the world discussed with emphasis on their importance, adaptation, use, and nutritional value.

VEC 3200 Vegetable Gardening. F, S.
Credits: 2††
A laboratory course primarily for non-majors who need the basic principles of vegetable gardening. A garden will be required to be grown by each student.

VEC 3224 Principles of Vegetable Production. F.
Credits: 3
Introduction to commercial vegetable production. Laboratory covering cool-season vegetable crops.

VEC 4225 Commercial Cool-Season Vegetable Crops. W.
Credits: 3; Prereq: VEC 3224.
The application of scientific principles to the production of cool-season vegetable crops.

VEC 4226 Commercial Warm-Season Vegetable Crops. S.
Credits: 4; Prereq: VEC 3224.
The application of scientific principles to the production of warm-season vegetable crops. Laboratory covering the production of these crops.

VEC 4410 Vegetable Crops Nutrition. W.
Credits: 3; Prereq: BOT 3503.
Chemical and physiological principles of vegetable nutrition including plant requirements, nutrient sources and methods of application.

VEC 4432 Growth and Development of Vegetable Crops. S.
Credits: 4; Prereq: BOT 3503.
Physiological and environmental factors affecting growth and development of vegetable crops.

VEC 4452 Principles of Postharvest Horticulture. F.
Credits: 4
Biological principles involved in harvesting, grading, packaging, transportation, and marketing vegetable crops and their effects on quality maintenance.

VEC 4905 Topics in Vegetable Crops. F, W, S, SS.
Credits: 2 to 4; Maximum of 12 credits; with permission of instructor.
Selected topics in one or more fields of vegetable crops as: nutrition, varietal development, herbicides and other cultural treatments, physiology and postharvest handling. (For additional courses related to Vegetable Crops-See Plant Science.)

VEC 4941 Full Time Practical Work Experience in Vegetable Crops. F, W, S, SS.
Credits: 1 to 4; S-U Grade only. Prereq: Prior arrangement with adviser, approval of Department Chairman and Dean.
Practical work must be a new experience and related to the field of study.

GRADUATE COURSES
See Horticultural Science

VETERINARY MEDICINE — IFAS

INSTRUCTIONAL STAFF 1979-80

Cornelius, C.E., Dean; Becker, H.N.; Berkhoff, G.A.; Besch, E.L.; Bradley, R.E., Sr.; Bruss, M.L.; Burridge, M.L.; Buss, D.D.; Cardeilhac, P.T.; Chen, D.; Cripe, W.S.; Chrisman, C.L.; Drost, M.; Edds, G.T.; Forrester, D.J.; Gaskin, J.M.; Gelatt, K.N.; Gibbs, E.P.; Gronwall, R.R.; Halliwell, R.E.; Harvey, J.W.; Himes, J.A.; Kahrs, R.F.; Neal, F.C.; Neilson, J.T.; Nicoletti, P.L.; Noonan, N.E.; Palmore, W.P.; Simpson, C.F.; White, F.H.

VES 3202C Anatomy and Physiology of Domestic Animals. W, SS.
Credits: 5; Prereq: ZOO 2010 (or BSC 2010, 2011 and 2012) and ASG 3003.
Structure and function of the skeletal, muscular, endocrine, reproductive, circulatory, respiratory, digestive, urinary and nervous systems. Laboratory to include appropriate demonstrations on these systems, particularly animal reproduction.

VES 4103 Animal Diseases and their Prevention. F.
Credits: 3; Prereq: VES 3202C, or consent of instructor.
The principal diseases of livestock and practical methods for their prevention and control.

VES 4131 Principles of Laboratory Animal Disease. W.
Credits: 5; Prereq: 3202C, ANS 3031, ANS 4403.
Review of diseases with emphasis on their prevention and control.

VES 4162 Poultry Diseases. W.
Credits: 3; Prereq: VES 3202C.
Causes, symptoms, methods of prevention and treatment of diseases of poultry.

VES 4611 Environmental Toxicology and Public Health. W.
Credits: 4; Prereq: CHM 3211.
Drugs and toxicants, their metabolism as influenced by food or residues; drug induced deficiency diseases; adverse reactions; mycotoxins; common poisons, their diagnosis, prevention and treatment.

GRADUATE COURSES

VES 5302 Veterinary Parasitology 1. W.
Credits: 5; Prereq: ZOO 2010 (or BSC 2010, 2011 and 2012), ZOO 3203, ZOO 3207, MCB 3103, ENV 4660 or consent of instructor.

VES 5303 Veterinary Parasitology 2. S.
Credits: 5; Prereq: VES 5302 or consent of instructor.

VES 6242C Veterinary Physiology 1.
Credits: 5

VES 6243C Veterinary Physiology 2.
Credits: 5

VES 6322 Helminthology.
Credits: 5

VES 6342 Immunology of Animal Parasites.
Credits: 5

VES 6362 Parasitic Diseases in the Tropics and Subtropics.
Credits: 5

VES 6402 Veterinary Microbiology.
Credits: 6

VES 6503 Veterinary Pathology.
Credits: 5

VES 6602 Veterinary Toxicology 1.
Credits: 5

VES 6603 Veterinary Toxicology 2.
Credits: 5

VES 6651 Veterinary Pharmacology 1.
Credits: 5

VES 6652 Veterinary Pharmacology 2.
Credits: 5

VES 6765 Veterinary Research Techniques.
Credits: 5

VES 6905 Problems in Veterinary Science.
Credits: 1 to 5

VES 6910 Supervised Research.
Credits: 1 to 5††

VES 6931 Seminar in Veterinary Science.
Credits: 1

VES 6940 Supervised Teaching.
Credits: 1 to 5††

VES 6971 Master's Research.
Credits: 1 to 15††

††Grading is on S-U basis only.

ZOOLOGY

College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1979-80

Emmel, T.C., Chairman; Ache, B.W.; Anderson, J.F.; Auffenberg, W.; Berner, L.; Bloom, S.A.; Brockmann, H.J.; Brodkorb, P.; Carr, A.F., Jr.; Carr, W.E.S.; Crisman, T.L.; Crump, M.L.; Deevey, E.S., Jr.; DeWitt, R.M.; Eisner, T.; Feinsinger, P.; Forrester, D.J.; Gilbert, C.R.; Godshalk, G.L.; Hardy, J.W.; Humphrey, S.R.; Johnson, F.C.; Johnston, D.W.; Kaufmann, J.H.; King, F.W.; Lanciani, C.A.; Lawrence, P.O.; Lloyd, J.E.; MacFadden, B.J.; Maturo, F.J.S., Jr.; McNab, B.K.; Nicol, D.; Nordlie, F.G.; Reiskind, J.; Schwassmann, H.O.; Thompson, F.G.; Walker, T.J.; Wallbrunn, H.M.; Webb, S.D.; Westfall, M.J., Jr.; Wolff, R.G.; Woods, C.A.

UNDERGRADUATE STUDENTS who intend to major in this department should plan a program in which introductory chemistry is taken as early as possible in the Freshman year.

The minimum number of credits required for a Zoology major is 37, including the following: General Biology — BSC 2010C, 2011C, 2012C (This sequence is a prerequisite for all courses in the department unless otherwise indicated.), PCB 3063 or PCB 3653 and at least one course from each of the following four sets: (a) Invertebrate Zoology — ZOO 3203 or Vertebrate Zoology — ZOO 3303; (b) Comparative Chordate Embryology — ZOO 3605C or Functional Vertebrate Anatomy — ZOO 3703C; (c) General Ecology — PCB 4044C or Evolution — PCB 4675; (d) Animal Physiology — PCB 4745C or Comparative Histology — ZOO 4755C. Also required are one year of college physics (PHY 2050-2050L), analytic geometry and calculus (MAC 3311-3312), and chemistry through organic (CHM 3210-3211L or CHM 3219-3219L) or physical chemistry (CHM 3400-3401) or a combination of one course in organic chemistry (CHM 3210-3210L) and biochemistry (BCH 4313-4203). The student is advised to begin these sequences as soon as possible.

Transfer students must take a minimum of three Zoology courses at the University of Florida as part of the requirements for a major in Zoology.

DEPARTMENTAL HONORS

To qualify for honors in Zoology a student must attain a 3.0 average in all Zoology work attempted and complete the following with at least a B grade: 8 credits in ZOO 4970. In addition, a research paper based on the ZOO 4970 work must be presented to and approved by the student's research advisor. This paper must contain experimental results and a discussion of those results.

BIOLOGY EDUCATION PROGRAM

Students wishing to receive a degree in Zoology through the College of Liberal Arts and Sciences while simultaneously obtaining accreditation for teaching secondary school biology should complete the following program. Students electing this program must have their course selections approved by a departmental advisor.

No course in which the grade earned is below "C" meets a requirement in this program.

Course	Credits
Mathematics:	
MAC 3311	5
Biology:	
BSC 2010, 2011, 2012	12
BOT 3503, 3503L or PCB 4745	5 or 6
ZOO 3203 and ZOO 3303	10
PCB 3043 or PCB 4044	5
PCB 3063 or PCB 3653	5
APB 2170, 2170L or ZOO 3703	5
BOT 2710 and BOT 3303	8
Chemistry:	
CHM 2040, 2041, 2042, 2043 or CHM 2045, 2046, 2047 or CHM 2055, 2056	10 or 16
BCH 3023 or CHM 3200, 3200L	5 or 6
Physics:	
PHY 2050, 2051, 2052, 2050L, 2051L, 2052L or PHY 2040, 2041, 2042, 2040L, 2041L, 2042L	12 or 15
Total	82 or 93

Students must also make applications for admission to the several phases of the Teacher Education Program as outlined in the College of Education section of this catalog and take the following courses: EDF 3135, EDF 3514 or 3604 or 4542; ESE 3932; SCE 4330; ESE 4011; ESE 4210; and ESE 4943.

Applied Biology

APB 2162 Genetics and Society. F, W.
Credits: 4
Inheritance and human attributes, chromosomal abnormalities, mutation, and the role genetics may play in human well-being; prospects and possible hazards of genetic engineering; the historical role of genetic concepts in political ideologies. Not a substitute for PCB 3063 or PCB 3653.

Entomology

ENY 3004 General Entomology. S.
Credits: 4
A general course in insect biology that considers phylogeny, anatomy, physiology, ecology and behavior of insects in the context of organic evolution. Emphasis is on processes and principles.

Geology

GLY 4610 Invertebrate Paleontology. S.
Credits: 4; Prereq: GLY 2100 or APB 2150 or BSC 2010.
Characteristics and identification of important groups of invertebrate fossils and their use in the determination of the geological age of sedimentary rocks.

Process Biology

PCB 3063 Genetics. F, W, S.
Credits: 5
The course stresses fundamental properties of inheritance in eukaryotic organisms emphasizing examples in man. Basic concepts are developed for the nature, organization, transmission, expression, recombination, and function of genetic materials, and principles are derived for genetically characterizing populations.

PCB 3653G Laboratory Analyses of Variation. F, W, S.
Credits: 5
The practical application of genetical concepts in explaining the basis and inheritance of organic variation. This course provides an integrated lecture and laboratory approach to genetics, and emphasizes rigor of experimental design and analysis of laboratory data.

PCB 3673 Evolution Today. F, W, S.
Credits: 3
Evolutionary theories and their historical development. Available for students in the social sciences and humanities.

PCB 4044C General Ecology. F, S.
Credits: 5; Prereq: CHM 2047 and an introductory course in statistics are recommended.
Ecological factors and organization in terrestrial, freshwater and marine environments. Field work is an examination of representative biotic communities of the Gainesville area.

PCB 4285 Biology of Aging. S.
Credits: 4; Prereq: Senior standing or higher.
Investigation of the demographics, physiology, cellular, evolutionary and genetic correlates of the aging phenomena and processes.

PCB 4675 Evolution. F, W.
Credits: 5; Prereq: PCB 3063 or PCB 3653.
Processes and mechanisms of evolution, including population genetics, speciation, patterns of evolution and molecular evolution.

PCB 4745C Animal Physiology. F, W, S.
Credits: 5; Prereq: General Physics or instructor's permission.

Zoology

ZOO 2013C Introductory Zoology Laboratory.
Credits: 4
The anatomy, physiology, life history, and behavior of representative invertebrate and vertebrate animals. Replaced by BSC 2010.

ZOO 2014 Principles of Animal Biology.
Credits: 5; Prereq: ZOO 2013C, CHM 2040 or CHM 2045C.
Considerations of historical development of the science; cell structure and function; replication of molecules, cells and individuals; inheritance, evolution and homostatis; and complex interrelationships among organisms and their environments. Replaced by BSC 2011.

ZOO 3203C Invertebrate Zoology. F, S.
Credits: 5
The structure, taxonomy, evolutionary relationship and life histories of the invertebrate animals.

ZOO 3303C Vertebrate Zoology. W.
Credits: 5
The evolution, taxonomy, ecology and behavior of vertebrates. Emphasis is on the adaptations of wild animals to their natural habitats.

ZOO 3513C Animal Behavior. S.
Credits: 5
The causes, origins and evolution of animal behavior emphasizing field observations and experiments on the behavior of a variety of animal groups.

ZOO 3605C Comparative Chordate Embryology. F, S.
Credits: 5
The analysis of development of chordate organ systems accompanied by laboratory work dealing with the frog, chick, and pig.

ZOO 3703C Functional Vertebrate Anatomy. F, W.
Credits: 5
The morphology of the various chordate animals are accompanied by laboratory work dealing with a selected series of chordates.

ZOO 3803C Field Problems in Vertebrate Zoology. S.
Credits: 4; Prereq: ZOO 3303C.
The laboratories include field work in representative local habitats, and individual projects.

ZOO 4235C Animal Parasitology. S.
Credits: 5
Life cycles, morphology, and physiology of the helminth and protozoan parasites of vertebrate animals.

ZOO 4404C Integrated Marine Biology. SS.
Credits: 6; Coreq: ZOO 4405C required.
Physical, biological, and ecological aspects of the marine environment; natural history of common marine and coastal organisms.

ZOO 4405C Field Problems in Marine Biology. SS.
Credits: 6; Coreq: ZOO 4404C required.
Survey of major marine taxa, systematics of local marine fauna and flora, familiarization with the marine environment. Laboratory emphasizes field work and independent projects.

ZOO 4473C Avian Biology. S.
Credits: 5; Prereq: ZOO 3703C.
The basic biological characteristics of birds which, as exceptionally unique flying vertebrates, are

confronted with a spectrum of problems in terms of anatomy, physiology, behavior, migration, and population ecology.

ZOO 4755C Comparative Histology. W.
Credits: 5; Prereq: ZOO 3703C.
Comparative aspects of both structure and function of vertebrate tissues.

ZOO 4905 Individual Studies in Zoology. F, W, S, SS.
Credits: 1 to 5; Prereq: One year of biology and consent of instructor and chairman of department.
Qualified students and the instructor concerned may choose a particular topic or problem for study. May be repeated for full credit.

ZOO 4926 Special Topics in Zoology. F, W, S, SS.
Credits: 1 to 5; Prereq: consent of instructor.
Lectures, conferences or laboratory sessions covering selected topics of current interests in Zoology. May be repeated for full credit with change of content.

ZOO 4940 Practical Experience in Teaching Zoology.
Credits: 2††; Prereq: Senior status with recommendations from two faculty including the course instructor.
Participation in teaching lower division Zoology courses with practical experience in instructional procedures, testing and grading, course and laboratory preparation and laboratory assistance. Cannot be used to satisfy minimum hour requirement for Zoology major.

ZOO 4970 Honors Thesis. F, W, S, SS.
Credits: 4; Prereq: 3.0 overall honor point average and a 3.0 in at least 24 credits of approved major courses in Zoology. Consent of instructor and chairman of department.
Qualified students working towards graduation with departmental honors carry out research under supervision of a faculty member and submit a formal written report. May be repeated for full credit.

GRADUATE COURSES

Applied Biology

APB 5415C Radioisotope Theory and Techniques. W.
Credits: 5; Prereq: CHM 3120C or consent of instructor.

Experimental Psychology

EXP 6108 Survey of Sensory Systems. F.
Credits: 4; Prereq: PCB 4745C or BMS 6510.

EXP 6109 Seminar in Sensory Processes. S.
Credits: 1††

Geology

GLY 6615 Advanced Invertebrate Paleontology. W, S.
Credits: 4

GLY 6660 Paleoecology. F.
Credits: 4

Process Biology

PCB 5317C Marine Ecology. F.
Credits: 5

PCB 5415C Behavioral Ecology. F.
Credits: 5; Prereq: ZOO 3803C or PCB 4044C.

PCB 5487 Analytical Techniques in Marine Ecology. F.
Credits: 2

PCB 5545 Physiological Genetics.
Credits: 4; Prereq: PCB 3063 or PCB 3653 or equivalent.

PCB 6049 Seminar in Ecology. F, W, S.
Credits: 2

PCB 6069 Topics in Genetics.
Credits: 2 to 4

PCB 6307C Liminology. S.
Credits: 5

PCB 6357C Tropical Biology — An Ecological Approach. W, SS.
Credits: 12

PCB 6377C Physiological Ecology of Vertebrates. F.
Credits: 5

PCB 6379 Seminar in Physiological Ecology. W.
Credits: 1 to 4

PCB 6447C Community Ecology. S.
Credits: 5

PCB 6448C Pollination Ecology. S.
Credits: 5

PCB 6496C Stream Ecology.
Credits: 5

PCB 6577C Ecological Genetics. W.
Credits: 5

PCB 6686C Experimental Population Ecology. W.
Credits: 4

PCB 6796C Comparative Sensory Physiology. W.
Credits: 5

Psychobiology

PSB 6607 Research Methods in the Sensory Systems. W.
Credits: 4; Max. 8.

Zoology

ZOO 5115C Vertebrate Paleontology. F.
Credits: 4

ZOO 5405C The Biology of Marine Animals. W.
Credits: 4

ZOO 6116C Ancient Vertebrate Faunas. S.
Credits: 4

ZOO 6126 Historical Ecology of the Pleistocene. F.
Credits: 4

ZOO 6207C Advanced Invertebrate Zoology.
Credits: 5

ZOO 6246C Helminthology. W.
Credits: 5

ZOO 6336C Principles of Systematic Zoology.
Credits: 4

ZOO 6416C Biology of the Amphibia. S.
Credits: 5

ZOO 6456C Ichthyology. S.
Credits: 5

ZOO 6466C Biology of the Reptilia. W.
Credits: 5

ZOO 6476C Ornithology. W.
Credits: 4

ZOO 6486C Mammalogy. F.
Credits: 5

ZOO 6506C Ethology.
Credits: 4

ZOO 6816 Zoogeography. F.
Credits: 3

ZOO 6857C Advanced Tropical Zoology. SS.
Credits: 12

ZOO 6905 Individual Studies in Zoology. F, W, S, SS.
Credits: 1 to 5

ZOO 6910 Supervised Research.
Credits: 1 to 5††

ZOO 6927 Special Topics in Zoology. F, W, S.
Credits: 1 to 5

ZOO 6939 Seminar in Animal Behavior.
Credits: 1 to 4

ZOO 6940 Supervised Teaching.
Credits: 1 to 5††

ZOO 6971 Master's Research.
Credits: 1 to 15††

ZOO 7980 Doctoral Research.
Credits: 1 to 15††

††Grading is on S-U basis only.

INSTRUCTION, RESEARCH, ADMINISTRATION AND EXTENSION 1980-1981

(The first date indicates the first year of academic employment; the last date, the year of present rank; the asterisk represents interruptions in service or leave of absence; [1]denotes Veterans Administration Hospital staff.)

ABBOTT, ELIZABETH F., Ph.D. (University of Florida)
Assistant Professor of Physical Sciences and Director of Florida Foundation for Future Scientists (1973-1973)

ABBOTT, THOMAS BENJAMIN, Ph D. (University of Florida)
*Professor and Chairperson, of Speech (1955-1978).**

ABBOTT, WESLEY WENDELL, M.Ed.
University School Assistant Professor (1958-1978).

ABDEL-KHALIK, A. RASHAD, Ph.D. (University of Illinois)
Matherly Professor of Accounting (1977-1977).

ABDULLA, ELIZABETH CARVER, M.L.S. (Florida State University)
Assistant Librarian, Reference and Bibliography (1976-1976).

ABRAMS, ROBERT M., Ph.D., D.D.S. (Univ. of Pennsylvania)
Associate Professor, Obstetrics and Gynecology (1969-1974).

ACHE, BARRY W., Ph.D. (University of California)
Associate Professor of Zoology (1978-1978).

ACHEY, Phillip M., Ph.D. (Pennsylvania State University)
Associate Professor, Microbiology and Cell Science, IFAS (1967-1975).

ACKERMAN, NORMAN, D.V.M. (Auburn University)
Associate Professor, Department of Special Clinical Sciences College of Veterinary Medicine (1979-1979).

ADAMS, CALVIN K., Ph.D. (Kansas State University)
Research Scientist, Center for Research on Human Prosthesis (1969-1977).

ADAMS, EARNEST DWIGHT, Ph.D. (Duke University)
Professor of Physics (1962-1970).

ADAMS, ELWYN A., M.M. (New England Conservatory)
Associate Professor of Music (1970-1972).

ADAMS, JAMES D., Ph.D. (University of Chicago)
Assistant Professor of Economics (1976-1979).

ADAMS, JOHN E., M.D. (Cornell University Medical College)
Professor and Chairperson, Department of Psychiatry (1974-1974).

ADAMS, SANDRA P., M.O.T. (University of Florida)
Assistant Professor of Occupational Therapy (1975-1977).

ADAMS, W.W., M.A.
Assistant Professor of Journalism and Communications (1976-1978).

ADERHOLDT, ROBERT W., Ph.D. (Georgia Inst of Technology)
Associate Professor of Building Construction (1972-1977).

ADLERZ, WARREN CLIFFORD, Ph.D. (Oregon State University)
Professor (Entomologist), IFAS, Agricultural Research Center, Leesburg (1958-1974).

AGEE, O. FRANK, M.D. (Louisiana State University)
Professor of Radiology (1962-1970).

AGRESTI, ALAN G., Ph.D. (University of Wisconsin)
Associate Professor of Statistics (1972-1977).

AHMED, ESAM MAHMOUD, Ph.D. (University of Maryland)
Professor (Food Scientist), IFAS (1964-1973).

AHTOLA, OLLI T., Ph.D. (University of Illinois)
Assistant Professor of Marketing (1973-1973).

AJINKYA, BIPIN B., Ph.D. (University of Minnesota)
Assistant Professor of Accounting (1975-1975).

ALBREGTS, EARL EUGENE, Ph.D. (Purdue University)
Associate Professor (Associate Soils Chemist) IFAS, Agricultural Research Center, Dover (1967-1973).

ALBRIGO, LEO GENE, Ph D. (Rutgers University)
Professor (Horticulturist), IFAS, Agricultural Research and Educational Center, Lake Alfred (1968-1979).

ALDRICH, HENRY CARL, Ph.D. (University of Texas)
Professor, Microbiology and Cell Science, IFAS (1966-1976).

ALDERSON, THOMAS H., D.D.S. (University of Tennessee)
Associate Professor of Removable Prosthodontics, College of Dentistry (1976-1976).

ALEXANDER, ALICE ELIZABETH, B.S. in L.S.
*Librarian and Chairperson, P.K. Yonge Library of Florida History (1951-1976).**

ALEXANDER, JAMES A., M.D. (Duke University)
Associate Professor of Surgery, and Chief of Thoracic and Cardiovascular Surgery (1977-1977).

ALEXANDER, JOHN F., JR., P.E., Ph.D. (University of Florida)
Associate Professor of Urban and Regional Planning (1975-1975).

ALEXANDER, MYRL E., A.B. (Manchester College)
Adjunct Professor of Criminal Justice (1974-1974).

ALEXANDER, RAYMOND H., M.D. (Duke University)
Assistant Professor of Surgery, VAH (1976-1976).

ALEXANDER, RONALD W., M.D. (Tulane University)
Professor of Pathology, VAH (1972-1977).

ALEXANDER, RUTH HAMMACK, Ed.D. (University of Indiana)
Professor of Physical Education (1969-1974).

ALEXANDER, SAMUEL KERN, Ed.D. (University of Indiana)
Professor of Education (1968-1970).

ALGINA, JAMES J., Ed.D. (University of Massachusetts)
Assistant Professor of Education (1978-1978).

ALGOZZINE, ROBERT FRANCIS, Ph.D. (Pennsylvania State University)
Associate Professor of Special Education (1976-1979).

ALI, ARSHAD, Ph.D. (University of Salford, England)
Assistant Professor, (Assistant Entomologist), IFAS, Agricultural Research and Education Center, Sanford (1978-1979).

ALLEE, JACQUELINE M., J.D. (University of Florida)
Assistant Dean for Academic Affairs (1978-1978).

ALLEN, BILLY JAY, M.A. (University of Florida)
*Associate Professor, (Extension 4H-Youth Specialist), IFAS, (1953-1968).**

ALLEN, CHARLES M. JR., Ph.D. (Brandeis University)
Professor of Biochemistry and Molecular Biology (1967-1979).

ALLEN, DON L., D.D.S. (University of North Carolina), M.S. (University of Michigan)
Dean and Professor of Periodonotology, College of Dentistry (1970-1974).

ALLEN, GEORGE E., Ph.D. (Mississippi State University)
Professor of Entomology, IFAS (1971-1971).

ALLEN, JOHN JAY, Ph.D. (University of Wisconsin)
Professor of Spanish (1960-1972).

ALLEN, JON C., Ph.D. (U. of California, Riverside)
Associate Professor (Associate Entomologist) IFAS, AREC-Lake Alfred (1973-1979).

ALLEN, LEON HARTWELL, JR., Ph.D. (Cornell University)
Assistant Professor (Soil Scientist), IFAS, USDA, (1974-1974)

ALLEN, ROBERT EUGENE, Ed.D. (University of Florida)
Professor of Professional Physical Education (1967-1979).

ALLEN, ROBERT JOHN, JR., Ph.D. (University of Maryland)
Associate Professor (Associate Agronomist) IFAS, Agricultural Research and Educational Center, Belle Glade (1950-1979).

ALTMAIER, ELIZABETH M., Ph.D. (Ohio State)
Assistant Professor of Psychology (1977-1977).

ALVAREZ, JOSE, Ph.D. (University of Florida)
Assistant Professor, Food & Resource Economics, IFAS, AREC, Belle Glade (1977-1977).

AMATEA, ELLEN S., Ph.D. (Florida State University)
Assistant Professor of Education (1974-1974).

AMBROSE, JOHN RUSSELL, Ph.D. (University of Maryland)
Associate Professor of Materials Science and Engineering (1978-1978).

AMMERMAN, CLARENCE BAILEY, Ph.D. (University of Illinois)
Professor (Animal Nutritionist), IFAS (1958-1970).

ANDERSEN, LEONALL C., Ph.D. (University of Minnesota)
Professor of Banking (1978-1978).

ANDERSEN, THORKILD W., M.D. (University of Copenhagen)
Professor of Anesthesiology (1958-1969).

ANDERSON, ARVID A., Ph.D. (University of Texas)
Assistant Professor of Marketing (1965-1965).

ANDERSON, BARBARA JOY, B.S.C. (Utah State University)
Associate Professor of English (1973-1978)

ANDERSON, CARL ANDREW, Ph.D (Iowa State University)
Associate Professor (Associate Soils Chemist), IFAS Agricultural Research and Educational Center, Lake Alfred (1962-1968).

ANDERSON, GENE CRANSTON, Ph.D. (University of Wisconsin)
Professor, College of Nursing (1977-1977).

ANDERSON, JAMES W., M.B.A
Associate Professor of Journalism and Communications (1973-1978).

ANDERSON, JOHN F., Ph.D (University of Florida)
Associate Professor of Zoology (1968-1974).

ANDERSON, ROLAND CARL, Ph.D. (University of Florida)
*Professor of Engineering Sciences (1961-1974) **

ANDERSON, TIMOTHY J., Ph D (Univ of California at Berkley)
Assistant Professor of Chemical Engineering (1978-1978).

ANDRES, JOEL M., M.D (SUNY - Buffalo)
Assistant Professor of Pediatrics (1977-1977).

ANDREW, CHRIS W., Ph.D. (Michigan State University)
Associate Professor of Food and Resource Economics, Assistant Director of International Programs, IFAS (1971-1977).

ANDREW, RAYMOND C., Ph D (Purdue University)
Associate Professor and Director of Personnel Affairs, IFAS (1973-1976).

ANDREWS, C. P., Ph.D. (Louisiana State University)
Assistant Professor (Assistant Horticulturalist), IFAS, Agricultural Research Center, Monticello (1975-1975).

ANDREWS, KEITH L., Ph.D. (University of California, Riverside)
Assistant Research Scientist, International Programs, IFAS El Salvador (1978-1978).

ANDREWS, SAMUEL DALTON, Ph D (University of Connecticut)
Assistant Professor of Education (1969-1971).

ANDRIOLA, MARY R., M.D. (Duke University)
Associate Professor of Neurology (1974-1974).

ANGORN, RICHARD ARTHUR, J.D. (University of Florida)
Associate Professor of Pharmacy and Associate Chairman, Pharmacy (1968-1973).

ANTHONY, DAVID SALISBURY, Ph.D. (University of Wisconsin)
Professor of Botany, Arts and Sciences (1955-1972).

ANTONINI, GUSTAVO A., Ph.D. (Columbia University)
Professor of Latin American Studies and Geography (1970-1978).

ANTONSON, DONALD E., D.D.S. (Loyola University)
Assistant Professor of Operative Dentistry, College of Dentistry (1975-1975).

APP, JAMES L., Ph.D. (University of Wisconsin)
Assistant Research Scientist and Assistant Dean for Agricultural Programs, IFAS (1973-1975).

APPLEDORF, HOWARD, Ph.D. (Mass. Institute of Technology)
Professor, (Nutritionist), IFAS (1969-1978).

ARAFA, ABDEL-MONIEM S., Ph.D. (Mississippi State University)
Assistant Professor (Department of Poultry Science), IFAS (1975-1975).

ARAUJO, OSCAR EDUARDO, Ph.D. (Purdue University)
Professor of Pharmacy (1962-1974).

ARAUJO, PAUL EDWARD, Ph.D. (Brown University)
Assistant Professor (Assistant Nutritionist), IFAS, (1974-1974).

ARBUCKLE, W. BRIAN, Ph.D. (University of North Carolina)
Assistant Professor of Environmental Engineering Sciences (1979-1979).

ARCHAMBO, NORMAN F., D.M.D. (University of Kentucky)
Assistant Professor of Occlusion and Fixed Prosthodontics, College of Dentistry (1977-1977).

ARCHER, BEVERLY B., Ph.D. (Ohio State University)
Associate Professor and Assistant Dean, (FAMU) IFAS (1972-1972).

ARCHER, WAYNE R., Ph.D. (Indiana University)
Assistant Professor of Real Estate and Urban Analysis (1971-1971).

ARDITTI, FRED D., Ph.D. (MIT)
Professor of Economics, Chairperson, Department of Economics (1971-1977).

AREY, SANDRA S., Ph.D. (University of Florida)
Assistant Professor of Sociology in Psychiatry (1976-1976).

ARIET, MARIO, Ph.D. (University of Florida)
Professor, Community Health and Family Medicine and Department of Medicine (1967-1978)

ARMSTRONG, HELEN JANE, M L.S. (University of Oklahoma)
Associate Librarian, Reference and Bibliography (1973-1973).

ARNOLD, CALVIN EUGENE, Ph.D. (Michigan State University)
Professor (Horticulturist) and Center Director, IFAS, Agricultural Research Center, Monticello (1969-1979).

ARRINGTON, LEWIS ROBERTS, Ph D. (University of Florida)
*Professor of Animal Science and Animal Nutritionist, IFAS, (1946-1967).**

ARVANITIS, LOUKAS G., Ph.D. (University of California)
Professor (Forest Mensuration), IFAS (1976-1976).

ASBURY, ATWOOD C., D.V.M (Michigan State University)
Associate Professor, Department of Reproduction, College of Veterinary Medicine (1977-1977)

ASHAMALLA, MEDHAT G., M.D. (University of Alexandria)
Assistant Professor of Psychiatry, VAH (1974-1974).

ASHTON, PATRICIA TEAGUE, Ph.D (University of Georgia)
Associate Professor of Education (1974-1979).

ASQUITH, RICHARD LAVERNE, D V.M. (Michigan State University)
Associate Professor of Equine Health, IFAS (1975-1975).

ATIASE, ROWLAND K., Ph D (University of California at Berkeley)
Assistant Professor of Accounting (1979-1979)

ATILANO, RAYMOND A., Ph.D. (University of California)
Assistant Professor (Assistant Plant Pathologist), IFAS Agricultural Research Center, Ft. Lauderdale (1977-1977)

AUFFENBERG, WALTER, Ph.D. (University of Florida)
*Curator of Herpetology, Florida State Museum and Joint Professor of Zoology (1956-1968).**

AUGUSTIN, BRUCE J., Ph.D. (Ohio State University),
Assistant Professor (Assistant Turfgrass Specialist), IFAS, (1979-1979).

AUGUSTINE, JIMMY JUDE, Ph.D. (University of California)
Assistant Professor (Assistant Geneticist), IFAS, Agricultural Research and Education Center, Bradenton (1975-1975).

AUXTER, THOMAS P., Ph.D. (Bryn Mawr College)
Associate Professor of Philosophy (1973-1979).

AVELLANEDA, ANDRES OSCAR, Ph.D. (University of Illinois)
Assistant Professor of Spanish (1979-1979).

AVILA, DONALD LEE, Ed.D. (University of Nebraska)
Professor of Education (1963-1971).

AYOUB, ELIA M., M.D. (American University of Beirut)
Professor of Pediatrics, Professor of Immunology and Medical Microbiology, and Chief, Infectious Diseases and Immunology (1969-1971).

BACHMAN, KERMIT C., Ph.D. (University of Maryland)
Associate Professor (Biochemist), IFAS (1971-1977).

BACON, PHILIP, Ph.D. (University of Tennessee)
Associate Professor of Mathematics (1965-1968).

BAER, HERMAN, M.D. (Basel)
Director of Clinical Microbiology and Associate Professor of Pathology and Immunology and Medical Microbiology (1966-1970).

BAGNALL, LARRY OWEN, Ph.D. (Cornell University)
Associate Professor (Associate Agricultural Engineer), IFAS, (1969-1974)

BAIG, MIZRA M., Ph.D., (SUNY - Buffalo)
Assistant Research Scientist of Medicine (1975-1979).

BAILEY, K.E., III, Ph.D. (University of North Carolina)
Assistant Professor of Accounting (1976-1976).

BAILEY, LYNN BONNETTE, Ph.D. (Purdue University)
Assistant Professor (Assistant Nutritionist), IFAS (1977-1977).

BAILEY, ROBERT LEO, M.S.E. (University of Florida)
Associate Professor of Electrical Engineering (1960-1972).

BAILEY, THOMAS LEE, III, Ph.D. (University of Chicago)
Professor of Physics and Electrical Engineering (1953-1963).

BAIRD, BRIDGET BOS, Ph.D. (State University of New York at Buffalo)
Assistant Professor of Mathematics (1976-1978).

BAIRD, CARL DIRELLE, Ph.D. (University of Florida)
Associate Professor (Associate Agricultural Engineer) IFAS (1967-1976).

BAKER, AMANDA S., Ph.D. (University of Florida)
Acting Dean, and Associate Professor, College of Nursing (1974-1978).

BAKER, FRANK SLOAN, JR., M.S.A. (University of Florida)
Professor, (Animal Husbandman), IFAS, Agricultural Research And Education Center, Quincy (1945-1963).

BAKER, SUSAN READ, Ph.D. (Harvard University)
Associate Professor of French (1976-1979).

BALANOFF, NEAL, Ph.D. (Northwestern University)
Associate Director, Division of Learning Resources and Communications, J. Hillis Miller Health Center, and Professor of Dental Education, College of Dentistry (1973-1979).

BALCIUNAS, JOSEPH, Ph.D. (University of Florida)
Assistant Research Scientist (Assistant Entomologist), IFAS Agricultural Research Center, Ft. Lauderdale (1977-1978).

BALDWIN, DORENE F., M.L.S (Indiana University)
Assistant Librarian, Latin American Library (1978-1978)

BALDWIN, FLETCHER NATHANIEL, JR., LL.M.
Professor of Law (1962-1968).

BALDWIN, LLOYD BARRINGTON, M.Ag. (University of Florida)
Associate Professor (Associate Agricultural Engineer), IFAS (1967-1977).

BALDWIN, NANCY, Ed.D (University of Florida)
Assistant Professor of Education, P.K. Yonge Laboratory School (1970-1970)

BALDWIN, RUTH, Ph.D. (University of Illinois)
Librarian and Curator, Childrens Literature Collection (1955-1977).

BALL, JOE CROCKETT, Ph.D. (University of California, Berkeley)
Assistant Professor (Assistant Entomologist), IFAS, Agricultural Research Center, Monticello (1974-1974).

BALL, JOSEPH EDWARD, M.S. (George Washington University)
Business Manager, Division of Housing (1970-1977).

BALLARD, STANLEY SUMNER, Ph.D. (Univ. of Cal. at Berkeley)
Distinguished Service Professor of Physics (1958-1978).

BALLENTINE, J. GREGORY, Ph.D. (Rice University)
Associate Professor of Economics (1974-1979).

BALLINGER, WILLIAM E. JR., M.D. (University of Florida)
Assistant Professor of Pathology, VAH (1977-1977).

BARANOWSKI, RICHARD MATTHEW, Ph.D. (University of Connecticut)
Professor (Entomologist), IFAS, Agricultural Research and Education Center, Homestead (1956-1967).

BARBA, ROBERT E. JR., B.S. (U.S. Naval Academy)
Lieutenant, U.S. Navy, Assistant Professor of Naval Science (1978-1978).

BARFIELD,CARL S., Ph.D. (Texas A & M University)
Assistant Professor, IFAS (1976-1976).

BARGER, BENJAMIN, Ph.D. (Duke University)
Clinical Psychologist (1959-1959).

BARINGER, WILLIAM ELDON, Ph.D. (University of Illinois)
Professor of Social Sciences and History (1947-1949).

BARKSDALE, E.C., Ph.D. (Ohio State University)
Associate Professor of Russian (1972-1972).

BARMORE, CHARLES R., Ph.D. (University of Florida)
Associate Professor (Associate Horticulturist) IFAS, AREC-Lake Alfred (1972-1977).

BARNARD, GEORGE, W., M.D. (University of North Carolina)
Associate Professor of Psychiatry, VAH (1963-1969).

BARNEA, MEIR, Ph.D. (University of Minnesota)
Assistant Professor of Economics (1979-1979).

BARNES, DAVID E., Ph.D., (Purdue University)
Assistant Research Scientist of Neuroscience (1979-1979).

BARNETT, RONALD DAVID, Ph.D. (Purdue University)
Associate Professor (Associate Agronomist), IFAS, Agricultural Research and Education Center, Quincy (1970-1975).

BARRETT, JAMES EDWARD, Ph.D. (Michigan State University)
Assistant Professor, (Assistant Ornamental Horticulturist), IFAS (1978-1978).

BARRICK, WILLIAM EDGAR, Ph.D. (Michigan State University)
Assistant Professor (Ornamental Horticulturist), IFAS (1976-1976).

BARTLETT, MARION CLEMENT, M.E.E.
Associate Engineer in Electrical Engineering (1970-1976).

BARTLEY, ERNEST R., Ph.D. (University of California)
Professor of Political Science and Urban and Regional Planning (1949-1955).

BARTON, PAULINE HINTON, Ed.D. (University of Florida)
Professor, College of Nursing (1959-1973).

BARTZ, JERRY A., Ph.D. (University of Wisconsin)
Associate Professor, (Associate Plant Pathologist), IFAS (1969-1969).

BASHAM, HERSY GRANT, Ph.D. (Cornell University)
Assistant Professor (Assistant Plant Pathologist), IFAS, Agricultural Research Center, Ft. Lauderdale (1976-1976).

BASS, RONALD K., Ph.D. (Michigan State University)
Associate Professor of Dental Education, College of Dentistry (1972-1977).

BASSETT, MARK JULIAN, Ph.D. (University of Maryland)
Associate Professor, (Associate Horticulturist), IFAS (1970-1977).

BATES, ROBERT PARKER, Ph.D. (M.I.T.)
Professor (Food Scientist) (1967-1979).

BATES, STANLEY RAYMOND, Ph.D. (University of Florida)
Associate Engineer in Materials Science and Engineering (1969-1979).

BATTISTE, MERLE ANDREW, Ph.D. (Columbia University)
Professor of Chemistry (1961-1970).

BAUER, THOMAS J., M.S. (Harvard University)
Radiation Control Officer; Head, Radiation Control and Radiological Services (1977-1979).

BAUGHMAN, RONALD A., D.D.S. (Medical College of Virginia)
Professor of Oral Medicine and Pathology, College of Dentistry (1974-1978).

BAUMER, G. HARRY, III, B.S.B.A. (Univ. of Florida)
Director of Purchasing (1965-1966).

BAZER, FULLER WARREN, Ph.D. (North Carolina University)
Professor, (Animal Physiologist), IFAS (1968-1978).

BEAR, MARY J., MSN (University of Colorado)
Instructor, College of Nursing (1979-1979).

BEATTY, CHARLES LEE, Ph.D. (University of Massachusetts)
Professor of Materials Science and Engineering (1979-1979).

BEATY JR., THOMAS C., B.S. (University of Florida)
Associate in Lab Animal/Wildlife Medicine, Department Special Clinical Sciences, College of Veterinary Medicine, and Assistant Director Health Center Animal Resources (1979-1979).

BEAULIEU, LIONEL, Ph.D. (Purdue University)
Assistant Professor, (Extension Rural Sociologist) IFAS (1977-1977).

BECHT, PAUL A., Ed.D. (University of Florida)
University School Associate Professor (1968-1978).

BECHTEL, GORDON G., Ph.D. (University of Michigan)
Professor of Marketing (1974-1974).

BECKER, H. NEIL, D.V.M., M.S. (University of Illinois)
Associate Professor (Associate Veterinarian), Department of Preventive Medicine, College of Veterinary Medicine, IFAS, (1974-1974).

BECKER, WILLIAM J., Ph.D. (Ohio State University)
Assistant Research Scientist and Agricultural Education Specialist (1979-1979).

BEDNAREK, ALEXANDER ROBERT, Ph.D. (St. U. of N.Y., Buffalo)
Professor of Mathematics and Chairperson of Department (1963-1969).

BEEGHLEY, LEONARD, Ph.D. (Univ. of California, Riverside)
Associate Professor of Sociology (1973-1978).

BEEMAN, CARL EDGAR, Ed.D. (Cornell University)
Professor and Chairperson, Agriculture and Extension Education (1967-1978).

BEIRNE, RAYMOND MICHAEL, M.A. (Columbia University)
Associate Professor of English (1954-1969).

BEISTLE, MARGARET R., M.A. (University of Tulsa)
Assistant Dean for Student Services (1964-1975).

BELAR, CYNTHIA D., Ph.D. (Ohio University)
Assistant Professor of Clinical Psychology (1974-1976).

BELL-NATHANIEL, AFESA, Ph.D. (University of Utah)
Associate Professor of Behavioral Studies and Psychology (1974-1979).

BENGSTON, JOHN KONSTANT, Ph.D. (University of Toledo)
Assistant Professor of Education (1974-1974).

BENNETT, CARROLL G., D.D.S., M.S. (Medical College of Virginia)
Professor and Chairman of Pediatric Dentistry, College of Dentistry (1973-1974).

BENNETT, GERALD THOMAS, J.D. (University of Florida)
*Professor of Law (1968-1974).**

BENNETT, JERRY MAC, Ph.D. (University of Nebraska)
Assistant Professor, (Assistant Agronomist), IFAS (1979-1979).

BENNETT, RICHARD F., M.S. (Florida State University)
Assistant Librarian, Circulation (1978-1978).

BENSON, HAROLD PHILIP, Ph.D. (Northwestern University)
Assistant Professor of Management (1979-1979).

BENTLEY, GEORGE ROBERT, Ph.D. (University of Wisconsin)
Professor of Social Sciences and History (1938-1972).

BERARDO, FELIX M., Ph.D. (Florida State University)
Professor of Sociology (1969-1973).

BERG, SANFORD V., Ph.D. (Yale University)
Associate Professor of Economics (1971-1976).

BERG, WILLIAM KEITH, Ph.D. (University of Wisconsin)
Associate Professor of Psychology (1973-1976).

BERGER, RICHARD DONALD, Ph.D. (University of Wisconsin)
Professor (Plant Pathologist), IFAS (1967-1976).

BERGERON, RAYMOND J., Ph.D. (Brandeis University)
Associate Professor of Medicinal Chemistry (1979-1979).

BERGMAN, JAY, M.A. (Appalachian State)
Head Baseball Coach (1975-1975).

BERKHEISER, VAUGHN ELWOOD, Ph.D. (Michigan State University)
Assistant Professor, (Assistant Soil Physical Chemist), IFAS (1977-1977).

BERKHOFF, GERMAN A., D.V.M. (University of Chile), Ph.D. (Cornell University)
Associate Professor (Associate Microbiologist), Department of Preventative Medicine, College of Veterinary Medicine, IFAS (1977-1977).

BERMAN, LAWRENCE S., M.D (Jefferson Medical College)
Assistant Professor of Anesthesiology (1978-1978).

BERNARD, DONALD HARRY, Ed.D. (Columbia University)
Associate Professor of Education (1969-1976).

BERNARD, H. RUSSELL, Ph.D. (University of Illinois)
Professor and Chairman of Anthropology (1979-1979).

BERNARD, SUZETTE D., M.A. (University of South Florida)
Assistant Professor of Art (1979-1979).

BERNEBEI, CAROLE A., Ph.D (Florida State University)
Assistant Professor, Extension Home Furnishings Specialist (1979-1979).

BERNER, LEWIS, Ph.D. (University of Florida)
Professor of Zoology and Entomology (1946-1970).

BERNHARD, RANDALL L., Ph.D (Brigham Young University)
Assistant Professor of Theatre (1979-1979).

BERNS, KENNETH I., M.D., Ph.D. (Johns Hopkins University)
Professor and Chairman of Immunology and Medical Microbiology, and Professor of Pediatrics (1976-1976).

BERNS, LAURA LOUISE, M.A.T. (Johns Hopkins University)
Instructor, Office of Instructional Resources (1976-1976).

BERNSTEIN, JERALD J., Ph D. (University of Michigan)
Professor of Neuroscience and Opthalmology (1965-1976).

BERTRAND, JOSEPH E., Ph.D. (Louisiana State University)
Professor (Animal Scientist), IFAS Agricultural Research Center, JAY (1966-1977).

BESCH, EMERSON L., Ph.D. (University of California at Davis)
Associate Dean, College of Veterinary Medicine and Professor, Department of Metabolism, College of Veterinary Medicine (1974-1975).

BETHART, HECTOR, D.M.D. (Tufts University)
Assistant Dean for Advanced Education and Associate Professor of Community Dentistry, College of Dentistry (1978-1978).

BETHEA, HENRY L., M.D. (University of Mississippi)
Assistant Professor of Anesthesiology (1977-1979).

BETHEA, SALLY BROOK, M.L.S.
Associate Librarian, Catalog (1959-1970).

BEVIS, HERBERT ANDERSON, Ph.D. (University of Florida)
Professor of Environmental Engineering Sciences (1961-1974).

BEYETTE, THOMAS K., Ph.D. (University of Texas at Austin)
Associate Professor of English (1969-1974).

BIAMONTE, RICHARD LOUIS, Ph.D. (Cornell University)
Assistant Professor (Extension Ornamental Horticulturist), IFAS Agricultural Research and Education Center, Homestead (1976-1976).

BICKFORD, DAVID M., B.B.A., C.P.A. (Eastern New Mexico University)
Director, Office of Internal Control (1964-1975).

BIEHAL, GABRIEL J., Ph.D. (Stanford University)
Assistant Professor of Marketing (1978-1978).

BIERY, JOHN CARLTON, Ph.D. (Iowa State University)
Professor of Chemical Engineering and Chairperson of The Department (1971-1971).

BIGELOW, GORDON ELLSWORTH, Ph.D. (Johns Hopkins University)
*Professor of English (1951-1967).**

BIGGS, ROBERT HILTON, Ph.D. (Purdue University)
Professor (Biochemist), IFAS (1957-1969).

BIGGS, THOMAS S. JR., LL.B.
University Attorney (1969-1969).

BIGHAM, JERRY L., B.S. (Florida State University)
Interim Academic Administrator (1979-1979).

BINGHAM, HAL G., M.D. (University of Kansas)
Professor of Surgery and Chief of Plastic and Reconstructive Surgery (1972-1972).

BINGHAM, ROSIE PHILLIPS, Ph.D. (Ohio State University)
University Counseling Psychologist, University Counseling Center (1978-1978).

BIRDSELL, DALE C., Ph.D. (University of California)
Associate Professor of Basic Dental Sciences, College of Dentistry (1974-1976).

BISHOP, JOHN P., Ph.D. (Texas A & M University)
Associate Research Scientist, International Programs, IFAS, INIAP, Ecuador (1972-1978).

BITTON, GABRIEL, Ph.D. (Hebrew University)
Associate Professor of Environmental Engineering Sciences (1974-1977).

BLACK, DAVID J., D.V.M. (Michigan State) , M.S. (University of Florida)
Assistant Professor, Department of Special Clinical Sciences, Division of Lab Animal/Wildlife Medicine, College of Veterinary Medicine and Associate Director, Health Center Animal Resources (1978-1979).

BLACK, ROBERT JOHN, Ph.D. (University of Tennessee)
Assistant Professor (Extension Ornamental Horticulturalist), IFAS (1975-1975).

BLAIR, BILLY R., M.A.T. (University of Montevallo)
Continuing Education Coordinator, Treeo Center, Division of Continuing Education (1976-1976).

BLAIR, ROGER DUNCAN, Ph.D. (Michigan State University)
Professor of Economics (1970-1978).

BLAIR, TIMOTHY RAWLINGS, Ph.D. (University of Illinois)
Assistant Professor of Curriculum & Instruction (1976-1976).

BLAKESLEE, GEORGE M., Ph.D (Duke University)
Assistant Professor, (Forest Pathology), IFAS (1976-1976).

BLAKEY, ARCH FREDRIC, Ph.D. (Florida State University)
Associate Professor of Social Sciences and History (1969-1974).

BLANCHARD, FRANK NELSON, Ph.D. (University of Michigan)
Professor of Geology (1958-1976).

BLASHFIELD, ROGER K., Ph.D. (Indiana University)
Associate Professor of Psychology in Psychiatry (1977-1977).

BLAZQUEZ, CARLOS H., Ph.D. (University of Florida)
Associate Professor, (Associate Plant Pathologist), IFAS, Agricultural Research and Education Center, Lake Alfred (1966-1976)

BLEIWEIS, ARNOLD S., Ph.D. (Pennsylvania State University)
Associate Chairperson and Professor, Microbiology and Cell Science, IFAS (1967-1976).

BLEVINS, DONALD KING, Ph.D. (University of Michigan)
Assistant Professor of Mathematics (1972-1972).

BLOCK, ALAN JAY, M.D. (Johns Hopkins University)
Professor and Chief of Pulmonary Medicine, Anesthesiology and Medicine, VAH (1970-1975).

BLOCK, EDWARD R., M.D. (Johns Hopkins University)
Associate Professor of Medicine (1975-1978).

BLOCK, G. H., M.A.T. (University of Florida)
Lecturer of Law (1975-1978).

BLOCK, LOUIS, Ph.D. (Northwestern)
Associate Professor of Mathematics (1973-1978).

BLOCK, SEYMOUR STANTON, Ph.D. (Pennsylvania State University)
Professor of Chemical Engineering (1944-1966).

BLOOM, STEPHEN A., Ph.D. (University of Washington)
Assistant Professor of Zoology (1976-1976).

BLOOMBERG, MARK S., D.V.M. (Purdue University)
Assistant Professor, Department of Surgical Sciences, College of Veterinary Medicine (1979-1979).

BLUE, WILLIAM GUARD, Ph.D. (University of Missouri)
Professor of Soil Science (Soil Chemistry), IFAS (1950-1963).

BLUME, ROBERT ALLEN, Ph.D. (University of Michigan)
Professor Education (1969-1979).

BOCK, E. WILBUR, Ph.D. (Iowa State University)
Professor of Sociology (1963-1978).

BOCK, MARTHA R., M.A.T. (University of Florida)
Instructor, P.K. Yonge Laboratory School (1972-1976).

BODINE, WILLIS RAMSEY JR., M.M. (University of Texas)
Professor of Music (1959-1976).

BODO, TANYA, M.A. (University of Florida)
Assistant Professor, College of Nursing (1974-1977).

BODOR, NICHOLAS S., Ph.D. (Babes-Bolyai University)
Professor and Chairman of Medicinal Chemistry (1979-1979).

BOLCH, WILLIAM EMMETT JR., Ph.D. (University of California)
Professor of Environmental Engineering Sciences (1966-1977).

BOLDUC, ELROY JOSEPH, Ed.D. (University of Tennessee)
Professor of Education (1969-1979).

BOMBERGER, WILLIAM A., Ph D. (Brown University)
Associate Professor of Economics (1968-1973).

BONNEVILLE, DOUGLAS A., Ph.D. (Ohio State University)
Professor of French (1963-1976).

BOOTE, KENNETH JAY, Ph.D. (Purdue University)
Associate Professor (Associate Agronomist), IFAS, (1974-1979).

BOOTH, HUMPHREY C., M.D., (University of London)
Assistant Professor of Community Health and Family Medicine (1979-1979).

BOTTCHER, ADELBERT BRACE, Ph.D. (Purdue University)
Assistant Professor (Asst. Agricultural Engineer), IFAS (1978-1978).

BOVA, FRANK J., Ph.D. (University of Florida)
Assistant Professor of Radiation Therapy (1978-1978).

BOWDEN, LOIS A.
Associate Hospital Director, Quality Assurance, Shands Teaching Hospital and Clinics (1975-1975).

BOWES, GEORGE E., Ph.D. (University of London, England)
Associate Professor of Botany, Arts and Sciences (1972-1978).

BOWLES, RICHARD WILLIAM, M.S. (Indiana University)
Professor of Music (1958-1967).

BOWMAN, THOMAS THEODORE, Ph.D. (Tulane University)
Assistant Professor of Mathematics (1970-1970).

BOYCE, RICHARD P., Ph.D. (Yale University)
Professor of Biochemistry and Molecular Biology (1971-1971).

BOYD, CLIFFORD ALLEN, Ed.D. (Boston University)
Dean, College of Physical Education, Health, and Recreation and Professor of Professional Physical Education (1950-1970).

BOYD, ROBERT L., D.D.S. (Temple University)
Assistant Professor of Orthodontics, College of Dentistry (1976-1976).

BOYETT, JAMES M., Ph.D. (Michigan State University)
Assistant Professor of Statistics (1974-1974).

BOYKIN, WILLIAM HENRY, JR., Ph.D. (Stanford University)
Professor of Engineering Sciences; Professor, Electrical Engineering; Professor, Industrial and Systems Engineering (1967-1979).

BOYLES, JESSE V., III, Ph.D. (University of Florida)
Assistant Professor of Accounting (1975-1975).

BOYSEN, BETTE E., M.D. (Loyola University)
University Physician (1975-1975).

BOYSEN, PHILIP G., M.D. (Loyola-Stritch)
Assistant Professor of Medicine and Anesthesiology (1977-1977).

BRACKBILL, YVONNE, Ph.D. (Stanford)
Graduate Research Professor of Psychology, Obstetrics, Gynecology, and Pediatrics (1975-1975).

BRADDOCK, ROBERT J., Ph.D. (Michigan State University)
Associate Professor (Associate Food Scientist) IFAS, AREC-Lake Alfred (1970-1975).

BRADLEY, RICHARD E., D.V.M., Ph.D. (University of Georgia)
Professor (Parasitologist), Department of Preventive Medicine, College of Veterinary Medicine, IFAS (1968-1968).

BRANCH, MARC NICHOLS, Ph.D. (University of Maryland)
Associate Professor of Psychology (1973-1976).

BRANDMAN, RUSSELLA, Ph.D. (Florida State University)
Associate Professor of Theatre (1973-1978).

BRANDNER, EUGENE A., B. Arch.
University Physical Planning Consultant, Facilities Planning and Operations, J. Hillis Miller Health Center (1975-1975).

BRANTLEY, RICHARD ESTES, Ph.D. (Princeton University)
Associate Professor of English (1969-1974).

BRASHER, JAMES JACKSON, Ph.D. (Louisiana State University)
Associate Dean and Professor, IFAS (1973-1979).

BRASK, WILLARD JOHN GUSTAVE, M.M. (University of Michigan)
Professor of Music (1963-1977).

BRAUN, R. KENNETH, D.V.M. (Cornell University), M.S. (University of California at Davis)
Professor, Department of Preventive Medicine, College of Veterinary Medicine (1978-1978).

BRAYLAN, RAUL C., M.D. (Buenos Aires Medical School)
Associate Professor of Pathology (1977-1977).

BRECHNER, BEVERLY LORRAINE, Ph.D. (Louisiana State)
Associate Professor of Mathematics (1968-1971).

BRECKE, BARRY JOHN, Ph.D. (Cornell University)
Assistant Professor (Assistant Agronomist), IFAS Ag. Res. Center (1975-1975).

BREDAHL, A. CARL, Ph.D. (Pittsburgh University)
Associate Professor of English (1970-1976).

BREEDEN, CARL W., M.S. (Indiana University)
Assistant Professor, (Assistant Editor), IFAS, (1978-1978).

BREEZE, MARSHALL H., M.A. (University of Florida)
Assistant Professor (Assistant Editor), IFAS (1974-1974).

BREIVOGEL, WILLIAM FRANCIS, Ed.D. (Rutgers University)
Associate Professor of Education (1966-1974).

BREY, WALLACE SIEGFRIED, JR., Ph.D. (University of Pennsylvania)
Professor of Chemistry (1952-1964).

BREZONIK, PATRICK LEE, Ph.D. (University of Wisconsin)
Professor of Environmental Engineering Sciences (1966-1976).

BRIENT, BRUCE W., M.D. (University of Kansas)
Assistant Professor of Surgery (1975-1975).

BRIGHAM, EUGENE F., Ph D. (University of California at Berkeley)
Graduate Research Professor (1971-1971).

BRIGHT, ROBERT W., M.D. (George Washington University)
Associate Professor of Orthopaedic Surgery and Chief of Pediatric Orthopaedic Services (1974-1977).

BRINES, RUSSELL D., B.A.
Assistant Professor of Journalism & Communications (1978-1979).

BRITT, MARY STEVENSON, M.S. (Bowman-Gray School of Medicine)
Chairman and Associate Professor, Department of Medical Technology (1974-1974).

BROCK, ROBERT W., B.A. (Union College)
Associate Director of University Hospital, Controller Office Shands Teaching Hospital and Clinics (1978-1979).

BROCKMANN, H. JANE, Ph.D. (University of (Wisconsin)
*Assistant Professor of Zoology (1976-1976).**

BRODKORB, PIERCE, Ph.D. (University of Michigan)
Professor of Zoology (1946-1955).

BROGDON, JAMES EDISON, M. Agr.
Professor (Entomologist) IFAS (1955-1966).

BROLMANN, JOHANNES BERNARDUS, Ph.D. (University of Florida)
Assistant Professor (Assistant Legume Breeder) IFAS, Agricultural Research Center, Ft. Pierce (1969-1969).

BROOKBANK, JOHN WARREN, Ph.D. (Calif. Inst. of Technology)
Professor, Microbiology and Cell Science, IFAS (1955-1968).

BROOKE, DONALD LLOYD, Ph.D. (University of Illinois)
Professor, Food and Resource Economics Department, IFAS (1946-1962).

BROOKEMAN, JAMES R., Ph.D. (Univ. of St. Andrews, Scotland)
Professor of Physical Sciences and Physics (1971).

BROOKEMAN, VALERIE ANNE, Ph.D. (University of St. Andrews, Scotland)
Professor of Radiology (1971-1979)

BROOKS, JAMES KEITH, Ph.D. (Ohio State University)
Professor of Mathematics (1967-1972).

BROOKS, ROBERT F. Ph.D. (University of Wisconsin)
Professor (Entomologist) IFAS, AREC-Lake Alfred (1960-1971).

BROSCHAT, TIMOTHY, Ph.D. (Ohio State University)
Assistant Professor (Assistant Ornamental Horticulturist), IFAS, Agricultural Research Center, Ft. Lauderdale (1979-1979).

BROUGHTON, ELIZABETH, B.A. (Rollins College)
Women's Tennis Coach, (1978-1978)

BROWN, ASHMUN, J.D. (Boston University)
Associate University Attorney (1974-1974).

BROWN, BOB B., Ph.D. (University of Wisconsin)
Professor of Foundations of Education (1965-1968).

BROWN, BRISBANE H., JR., Ph.D. (Oklahoma State University)
Associate Professor of Building Construction (1974-1974).

BROWN, DELINDUS RICHARD, Ph.D. (Indiana University)
Associate Professor of Speech (1974-1979).

BROWN, HERBERT, P.A.C. (University of Florida)
Physician's Assistant (1977-1977).

BROWN, JAMES, B.S. (Catawba)
Assistant Basketball Coach (1976-1976).

BROWN, JEAN WOODLEY, M.Ed.
University School Assistant Professor, P.K. Yonge Laboratory School (1967-1978).

BROWN, LAURENCE C., B.A., A.I.A.
University Physical Planning Consultant, Facilities Planning And Operations, J. Hillis Miller Health Center (1977-1977).

BROWN, WILLIAM SAMUEL, Ph.D. (State Univ. of New York)
Associate Professor of Speech (1970-1976).

BROWNELL, WILLIAM E., Ph.D. (University of Chicago)
Assistant Professor of Surgery and Neuroscience (1974-1974).

BROWNSMITH, JOSEPH D., Ph.D. (Ohio State University)
Assistant Professor of Computer and Information Sciences, College of Engineering (1978-1978).

BROYLES, ARTHUR AUGUSTUS, Ph.D. (Yale University)
*Professor of Physics and Physical Sciences (1949-1961).**

BROZYNA, GERALD A., M.D. (National Univ. of Mexico City)
Assistant Professor of Medicine (1978-1978).

BRUGGER, DAVID J., M.S.
Associate in Broadcasting and General Manager, WUFT-TV (1977-1977).

BRUNN, ALICE LEFLER, M.S. in L.S.
Assistant Librarian, Engineering and Physical Science (1972-1972).

BRUNSON, JIMMIE MELVIN, B.S.B.A.
Associate in Engineering and Associate Director, Engineering and Industrial Experiment Station (1970-1978).

BRUSS, MICHAEL L., D.V.M. (Colorado State), Ph.D. (University of California at Davis)
Assistant Professor, Department of Metabolism, College of Veterinary Medicine, (1975-1975).

BRYAN, HERBERT HARRIS, Ph.D. (Cornell University)
Professor, (Horticulturist), IFAS, Agricultural Research and Education Center, Homestead (1964-1978).

BRYAN, PATRICIA F., M.Ed. (University of Florida)
Assistant in Engineering (1976-1979).

BRYAN, ROBERT ARMISTEAD, Ph.D. (University of Kentucky)
*Vice President for Academic Affairs and Professor of English (1957-1975).**

BUCHANAN, DAVID WESLEY, Ph.D. (Rutgers University)
Professor, (Horticulturist), IFAS (1967-1978),

BUCHER, JOHN F., D.D.S (University of Pittsburgh), M.S. (University of Michigan)
Professor and Chairman of Endodontics, College of Dentistry (1969-1974).

BUCHLER, J. ROBERT, Ph.D. (Univ. of California at San Diego)
Associate Professor of Physics and Astronomy (1974-1974).

BUCK, DOUGLAS LLOYD, M.Ag
Assistant in Medical and Health Communications; Director, Health Center Communications, J. Hillis Miller Health Center (1965-1975)

BUERGELT, CLAUS D., D V.M. (Hannover Veterinary College), Ph.D. (Cornell University)
Associate Professor, Division of Comparative Pathology, College of Veterinary Medicine (1978-1978).

BUFFINGTON, DENNIS ELVIN, Ph.D. (University of Minnesota)
Associate Professor (Associate Agricultural Engineer), IFAS (1971-1976).

BUHL, JOANNE M., M Ed. (University of Florida)
Assistant in Psychiatry (1976-1976).

BUICKEL, SHERRY, M.P.E. (University of Idaho)
Women's Head Trainer (1978-1978).

BULLOCK, ROBERT CROSSLY, Ph.D. (University of Connecticut)
Associate Professor (Associate Entomologist) IFAS Agricultural Research Center, Ft. Pierce (1961-1961).

BULLOCK, THOMAS EDWARD, JR., Ph.D. (Stanford University)
Professor of Electrical Engineering (1966-1974).

BURCH, DEREK G., Ph.D. (University of Florida),
Assistant Professor (Extension Ornamental Horticulturist), IFAS (1979-1979).

BURCHARDT, HANS, Ph.D. (University of Florida)
Assistant Professor of Orthopaedic Surgery (1976-1976).

BUREN, WILLIAM F., Ph.D. (Cornell University)
Professor (Entomologist), IFAS (1973-1973).

BURGESS, PATRICK P., M.S.P.H. (University of North Carolina)
Assistant Professor of Obstetrics and Gynecology (1970-1970).

BURK, WILLIAM L., M.S. (University of Missouri)
Assistant Professor, Extension Human Development Specialist (1976-1976).

BURKE, MICHAEL JOHN, Ph.D. (Iowa State University)
Professor and Chairperson of Department, (Horticulturist), IFAS, (1979-1979).

BURKETT, BARBARA A., J.D. (University of Iowa)
Assistant Professor (1977-1977).

BURNAP, CHARLES ALAN, Ph.D. (Harvard University)
Assistant Professor of Mathematics (1976-1976).

BURNS, ALLAN F., Ph.D. (University of Washington)
Assistant Professor of Anthropology (1976-1978).

BURNS, AUGUSTUS MERRIMON, III, Ph.D. (University of North Carolina)
Associate Professor of Social Sciences and History (1967-1979).

BURNS, JAMES F., Ph.D. (Massachusetts Institute of Technology)
Professor of Industrial and Systems Engineering (1966-1975).

BURNS, JANE N., M.N. (University of Florida)
Instructor, College of Nursing (1979-1979).

BURRIDGE, MICHAEL J., B.V.M. & S. (Edinburg University), Ph.D. (University of California at Davis)
Associate Professor, Department of Preventive Medicine, College of Veterinary Medicine (1976-1976).

BURROWS, LEE, B.B.A. (Marshall University)
Assistant Director Auxiliary Services (1969-1971).

BURT, EVERT OAKLEY, Ph.D. (Ohio State University)
Professor (Ornamental Horticulturist) IFAS, Agricultural Research Center, Ft. Lauderdale (1962-1969).

BUSBY, WALTER A., Ed.D. (Michigan State University)
Associate Professor of Education (1968-1974).

BUSEY, PHILIP, Ph.D. (University of Arizona)
Assistant Professor (Assistant Turfgrass Breeder), IFAS, Agricultural Research Center, Ft. Lauderdale (1976-1976).

BUSHNELL, DAVID, Ph.D (Harvard University)
Professor and Chairperson of the Department of History (1963-1968).

BUSHNELL, PETER STERLING, M.L.S.
Associate Librarian, Catalog (1972-1977).

BUSS, DARYL D., D.V.M. (University of Minnesota), Ph.D. (University of Wisconsin)
Associate Professor and Department Chairman, Department of Metabolism, College of Veterinary Medicine, (1976-1979).

BUTLER, GEORGE BERGEN, Ph.D. (University of North Carolina)
Professor of Chemistry and Research Professor (1946-1957)

BUTLER, GLENN A., Ed.D. (Oklahoma State University)
Professor of Journalism and Communications and Associate Dean (1966-1975).

BUTLER, JERRY FRANK, Ph.D. (Cornell University),
Professor (Entomologist), IFAS, (1968-1979).

BUTLER, SHARON D., B.S.
Systems Coordinator, Office of Management and Budget, Vice President for Health Affairs, J. Hillis Miller Health Center (1977-1978).

BUTLER, SHERMAN LINVILLE, M L.S.
Associate Librarian, Reference and Bibliography (1968-1974).

BUTT, ARNOLD FREDERICK, M.Arch. (Rice University)
Professor of Architecture and Chairperson of the Department of Architecture (1952-1968).

BUTTON, ERVINE J., J.D. (Syracuse University)
Director, Business Services, Vice President for Health Affairs, J. Hillis Miller Health Center (1967-1978).

BUTTON, JAMES W., Ph D. (University of Texas)
Associate Professor of Social Sciences and Political Science Adviser (1973-1979).

BUTTON, ROBERT A., M.Ltt. (University of Pittsburgh)
Director, University Personnel Relations (1963-1965).

BYRD, HAZEL PATRICIA, Ph.D. (University of Florida)
Assistant Professor of Linguistics and Assistant Director of the English Language Institute (1974-1974).

BYRNES, LINDA JOHNSON, M.S. (Florida State University)
Instructor in Communicative Disorders (1971-1971).

BYRON, KENNETH HUGH, Ph.D. (University of Florida)
Associate Professor of English (1961-1970).

BZOCH, KENNETH RUDOLPH, Ph.D. (Northwestern University)
Chairperson and Professor, Department of Communicative Disorders and Speech (1960-1965).

CADE, JAMES R., M.D. (University of Texas)
Professor of Medicine (1961-1968).

CAFFEE, H. HOLLIS, M.D. (University of Florida)
Assistant Professor of Surgery and Chief of Plastic & Reconstructive Surgery, VAH (1978-1978).

CAILLER, BERNADETTE, Ph.D. (Cornell University)
Associate Professor of French (1974-1979).

CALDERWOOD, HUGH W., V.M.D. (University of Pennsylvania)
Assistant Professor of Anesthesiology, Department of Medical Sciences, College of Veterinary Medicine, (1971-1974).

CALDERWOOD, MARON B., V.M.D. (University of Pennsylvania), Ph.D. (University of Florida)
Assistant Professor, Division of Comparative Pathology, College of Veterinary Medicine, (1977-1977).

CALDWELL, MARY ELLEN, LL.M. (Yale University)
*Professor of Law (1974-1974).**

CALDWELL, ROBERT EDWARD, Ph.D. (Purdue University)
Professor of Soil Science (Soil Genesis and Classification) IFAS (1941-1968).

CALFEE, DENNIS A., LL.M. (University of Florida)
Associate Professor (1975-1978).

CALLARY, PAUL R., M.S. (University of Maine)
Assistant in Engineering Sciences (1977-1977).

CALLOWAY, PAULINE FRANCES, Ed.D. (North Carolina State)
Associate Professor (Extension District Agent), IFAS, (1968-1974).

CALVERT, DAVID VICTOR, Ph.D. (Iowa State University)
Professor, (Soil Chemist), and Center Director, Arc, Ft. Pierce (1962-1979).

CAMBLIN, JOHN G., M.D. (Queens University of Belfast)
Assistant Professor of Orthopaedic Surgery, VAH (1978-1978).

CAMERON, DON F., Ph.D. (Medical U. of South Carolina)
Instructor of Anatomy (1976-1976).

CAMPBELL, CARL WALTER, Ph.D. (Purdue University)
Professor (Horticulturist) IFAS, Agricultural Research and Education Center, Homestead (1960-1973).

CAMPBELL, HUGH DANIEL, Ph.D. (Univ. of British Columbia)
*Associate Professor of Nuclear Engineering Sciences (1968-1973).**

CAMPBELL, JOYCE E., M.A. (University of Florida)
Instructor P.K. Yonge Lab School (1979-1979).

CAMPBELL, KENNETH LEONARD, Ph.D. (Iowa State University)
Associate Professor (Associate Agricultural Engineer), IFAS (1972-1979).

CANFIELD, DANIEL E., JR., Ph D. (Iowa State University)
Assistant Professor, IFAS (1976-1979).

CANTLIFFE, DANIEL JAMES, Ph.D. (Purdue University)
Associate Professor (Horticulturist), IFAS (1974-1976).

CANTRELL, FRED H., B.S.B.A. (University of Florida)
Director of University Relations (1968-1968).

CANTWELL, KATHLEEN A., M.D. (University of Florida)
University Physician (1979-1979).

CAPEHART, BARNEY L., Ph.D. (University of Oklahoma)
*Professor of Industrial and Systems Engineering (1968-1979).**

CARPELLARI, FRANCESCO G., M.Arch. (University of California, Berkeley)
Assistant Professor Architecture (1979-1979).

CARANASOS, GEORGE J., M.D. (Johns Hopkins University)
Professor of Medicine and Community Health and Family Medicine and Chief of Ambulant Medicine (1968-1977).

CARPENTER, RONALD H. Ph.D. (University of Wisconsin)
Associate Professor of English (1971-1971).

CARDEILHAC, PAUL T., D.V.M. (Texas A & M University), Ph.D. (University of Pennsylvania)
Professor (Pharmacologist), Department of Reproduction, College of Veterinary Medicine, IFAS (1968-1977).

CARLISLE, VICTOR WALTER, Ph.D (University of Florida)
Professor of Soil Science (Soil Genesis and Classification) IFAS (1947-1974).

CARLOS, JOHN JR., M.S. (Boston University)
Assistant Professor of Physical Therapy (1977-1977).

CARLSON, GERALD M., Ph.D. (University of Michigan)
Associate Professor, Department of Pharmacology, College of Medicine, (1976-1976).

CARLSON, NORMAN GILBERT, B.S. (Florida)
Assistant Athletic Director of Sports Information (1963-1963).

CARNELL, CORBIN SCOTT, Ph.D. (University of Florida)
Professor of English (1958-1976).

CARPENTER, JAMES WOODFORD, Ph.D. (University of Florida)
Professor (Meat Scientist), IFAS (1953-1971).

CARPENTER, WILLIAM JOHN, Jr., Ph.D. (Michigan State University)
Professor and Chairperson for Ornamental Horticulture, IFAS (1975-1975).

CARR, ARCHIE FAIRLY, Ph.D. (University of Florida)
*Graduate Research Professor of Zoology and Curator of Zoological Sciences, Florida State Museum (1937-1959).**

CARR, GLENNA DODSON, Ed.D. (University of Florida)
Professor of Education (1952-1977).

CARR, THOMAS DEADERICK, Ph.D. (University of Florida)
Professor of Astronomy and Physics (1958-1966).

CARR, WILLIAM C., M.Ed. (University of Florida)
Athletic Director (1972-1979).

CARR, WILLIAM E.S., Ph.D. (Duke University)
Professor of Zoology and Assistant Director of C.V. Whitney Marineland Laboratory (1965-1978).

CARRERA, FRANK, III, M.D. (Emory University)
Associate Professor of Psychiatry (1965-1970).

CARRIKER, ROY R., Ph.D. (Virginia Poly. Inst. & State Univ.)
Assistant Professor (Rural and Natural Resource Development) Food & Resources Economics, IFAS (1976-1976).

CARROLL, EDWARD ELMER JR., Ph.D. (Univ. of Pennsylvania)
*Professor of Nuclear Engineering Sciences (1966-1972).**

CARSON, LESTER M., B.A.
Associate Professor of Journalism & Communications (1979-1979).

CARSON, RONALD A., Ph.D. (University of Glasgow)
Associate Professor of Religion and Community Health and Family Medicine (1975-1978).

CARTER, KEITH ALAN, Ph.D. (Iowa State University)
Assistant Professor (Extension Rural Sociologist) IFAS, (1979-1979).

CARTER, RANDOLPH L., Ph.D. (Iowa State University)
Assistant Professor of Statistics (1976-1976).

CASAGRANDE, JEAN, Ph.D. (Indiana University)
Associate Professor of French and Linguistics; (1968-1973).

CASSIN, BARBARA C., B.S. (Simmons College)
Assistant Ophthalmologist (1969-1974).

CASSIN, SIDNEY, Ph.D. (University of Texas)
Professor of Physiology (1957-1969).

CASSISI, NICHOLAS J., M.D. (University of Miami)
Professor of Surgery and Chief, Otolaryngology, VAH (1973-1977).

CASTEEL, JAMES DOYLE, Ph.D. (George Peabody College)
Professor of Education (1969-1975).

CASTLE, WILLIAM S., Ph.D. (University of Florida)
Assistant Professor, (Assistant Horticulturist) IFAS, AREC-Lake Alfred (1974-1974)

CATHEY, GERALD M., D.D.S. (University of North Carolina)
Professor of Endodontics, College of Dentistry (1978-1978).

CATO, BERTHA MAE, M.A. (Indiana State University)
Assistant Professor of Recreation (1976-1976).

CATO, JAMES C., Ph.D. (University of Florida)
Associate Professor (Extension Marine Economist), Food and Resource Economics Department IFAS (1969-1977).

CATON, DONALD, M.D. (Columbia University)
Associate Professor of Obstetrics and Gynecology and Anesthesiology (1969-1974).

CECH, JOHN, Ph.D. (University of Connecticut)
Assistant Professor (1976-1977).

CENZER, DOUGLAS A., Ph.D. (University of Michigan)
Associate Professor of Mathematics (1972-1977).

CENZER, PAMELA S., M.L.S. (University of Michigan)
Assistant Librarian and Assistant Head, Acquisitions Department (1973-1976).

CERDA, JAMES J., M.D. (University of Maryland)
Professor and Associate Director, CRC, Associate Chairman, Professor of Medicine (1972-1976).

CHAFIN, MOSES BENTON, M.P.H.
Associate Professor of Physical Education and Tennis Coach (1964-1979).

CHAKRAVARTI, DIPANKAR, Ph.D. (Carnegie-Mellon University)
Assistant Professor of Marketing (1978-1978).

CHALMERS, DAVID MARK, Ph.D. (Rochester University)
Professor of History (1955-1967).

CHAMBLISS, CARROL GENE, Ph.D. (University of Illinois)
Assistant Professor of Agronomy, IFAS, Agricultural Research and Education Center, Bradenton (1976-1976).

CHAMEIDES, WILLIAM L., Ph.D. (Yale University)
Assistant Professor of Physics and Atmospheric Sciences (1976-1976).

CHAMPION, JOHN MILLS, Ph.D. (Purdue University)
Professor of Health and Hospital Administration (1964-1979).

CHANCE, JEAN C., M.A.
Associate Professor of Journalism and Communications (1969-1977).

CHANG, RICHARD TAIWON, Ph.D. (University of Michigan)
Professor of History (1966-1975).

CHAPIN, JAMES C., M.D. (University of Michigan)
Assistant Professor of Anesthesiology (1978-1978).

CHAPMAN, HERBERT LEE, JR., Ph.D. (Iowa State University)
Professor (Animal Nutritionist) and Center Director, Agricultural Research Center, ONA IFAS (1951-1965).

CHAPMAN, SHARON K., Ph D. (University of Florida)
Assistant Professor of Pharmacology and Therapeutics (1972-1972).

CHARUDATTAN, RAGHAVEN, Ph.D. (University of Madres)
Associate Professor, (Associate Plant Pathologist), IFAS (1970-1978).

CHEEK, JIMMY GEARY, Ph.D. (Texas A&M University)
Assistant Professor, Agricultural Extension Education, IFAS (1975-1975).

CHELLEMI, S. JOHN, D.D.S. (University of Pennsylvania)
Professor of Oral Medicine, College of Dentistry (1970-1975).

CHEN, CHAO L., D.V.M. (National Taiwan University), Ph.D. (Michigan State University)
Associate Professor, Department of Reproduction, College of Veterinary Medicine (1976-1976).

CHEN, KWAN-YU, Ph.D. (University of Pennsylvania)
Professor of Astronomy (1963-1977).

CHEN, SU-SHING, Ph.D. (University of Maryland)
Associate Professor of Mathematics (1970-1975).

CHEN, WAYNE H., Ph.D. (University of Washington)
Dean of the College of Engineering; Director of the Engineering and Industrial Experiment Station; Professor of Electrical Engineering (1952-1979).

CHENETTE, EUGENE R., Ph.D. (University of Minnesota)
Assistant Dean, College of Engineering, Professor of Electrical Engineering (1966-1978).

CHERRINGTON, BLAKE EDWARD, Ph.D. (University of Illinois)
Professor of Electrical Engineering and Chairman of the Department (1979-1979).

CHESROWN, SARAH E., M.D., (Medical College of Virginia)
Assistant Professor of Pediatrics (1979-1979).

CHEVES, FOREST A., M.S.
Associate in Chemistry (1961-1970).

CHEW, VICTOR, B.Sc. (H.) (University of Western Australia)
Associate Professor (Associate Statistician), USDA, IFAS (1955-1973).

CHIANG, RAYMOND C., Ph.D. (Baruch College)
Assistant Professor of Finance (1978-1978).

CHILDERS, CARL CALVIN, Ph.D. (University of Missouri)
Assistant Professor (Assistant Entomologist), IFAS Agricultural Research and Education Center, Lake Alfred (1977-1977).

CHILDERS, DONALD GENE, Ph.D. (U. Southern California)
Professor of Electrical Engineering (1965-1968).

CHILDERS, RICHARD C., M.D. (University of Rochester)
Assistant Professor, Department of Medicine (1974-1974).

CHILDERS, WILLIAM COLE, Ph.D (University of Florida)
*Professor of English (1959-1969).**

CHIU, TSAO-YI, Ph.D. (University of Florida)
Professor of Coastal and Oceanographic Engineering (1973-1979).

CHOATE, RUSH EDGAR, M.S.A. (University of Florida)
Professor (Agricultural Engineer), IFAS (1947-1959).

CHISHOLM, GEORGE W., M.D. (Medical University of South Carolina)
Instructor of Obstetrics and Gynecology (1979-1979).

CHRISMAN, CHERYL L., D.V.M. (Michigan State), M.S. (Ohio St)
Associate Professor, Department of Medical Sciences, College of Veterinary Medicine (1977-1977)

CHRISTENSEN, BENT AKSEL, Ph.D. (University of Minnesota)
Professor of Civil Engineering (1963-1965).

CHRISTIAN, MILTON BURKE, M.Ed. (University of Florida)
Assistant Professor of Behavioral Studies (1964-1970).

CHRISTIANSEN, KENNETH A., Ed.D. (University of Missouri)
Professor of Journalism and Communications, (1959-1978).

CHRISTIE, LEONARD G., M.D. (Temple University School of Medicine)
Associate Professor of Medicine (1976-1979).

CHRISTMAS, ROBERT BRUCE, Ph.D. (University of Florida)
Associate Professor in Poultry Science, IFAS (1960-1977).

CHU, CHAUNCEY CHENG-HSI, Ph.D. (University of Texas)
Associate Professor of Chinese and Linguistics, Director of Program in Linguistics (1969-1979).

CHUN, PAUL W., Ph.D. (University of Missouri)
Professor of Biochemistry and Molecular Biology (1967-1979).

CHURCHHILL, JAMES T., B.A. (University of Florida)
Instructor P.K. Yonge Lab School (1978-1978)

CILLEY, MARY L., M.A. (University of Florida)
Associate Professor, (Associate Editor), IFAS, (1961-1978).

CLARK, ANTHONY JAMES, Ph.D. (University of Denver)
Associate Professor of Speech (1969-1974).

CLARK, ARTHUR E., JR., Ph.D. (University of Florida)
Assistant Professor of Dental Biomaterials, College of Dentistry (1975-1975).

CLARK, EDWARD BOWIE, JR., Ed.S. (University of Florida)
Assistant Professor of Education (1966-1969).

CLARK, HAROLD BROWN, Ph.D. (University of Kentucky)
*Professor, Food and Resource Economics Department, IFAS (1958-1958).**

CLARK, IRA GRANVILLE, Ph.D. (Northwestern University)
Associate Professor of English (1972-1972).

CLARK, PHILLIP A., Ed.D. (Western Michigan University)
Associate Professor of Education (1972-1975).

CLARK, SHIRLEY ANN, M.A. (Ohio State University)
Assistant in Administration (1979-1979).

CLARK, T. DWYGHT, D.D.S. (Emory University)
Assistant Professor of Operative Dentistry, College of Dentistry (1976-1976).

CLARK, WILLIAM B., IV, D.M.Sc. (Harvard University)
Assistant Professor of Basic Dental Sciences, College of Dentistry (1977-1977).

CLARKE, MARION L., Ph.D. (Texas A & M University)
Associate Professor, Marine Advisory Coordinator, Florida Cooperative Extension Service (1977-1977).

CLARKSON, MARK HALL, Ph.D. (University of Texas)
*Professor of Engineering Sciences (1961-1961).**

CLEMMONS, ROGER M., D.V.M. & Ph.D. (Washington State)
Assistant Professor, Department of Medical Sciences College of Veterinary Medicine (1979-1979)

CLORE, FORREST C., M.D. (University of Michigan)
Associate Professor and Chief of Diagnostic Radiology, VAH (1967-1976).

CLOSSON, DAVID L., Ph.D. (University of Pennsylvania)
Assistant Professor of English (1977-1977).

CLUBOK, ALFRED B., Ph.D. (University of Michigan)
Professor and Chairperson of Political Science (1958-1977).

COBB, JAMES ROBERT, Ed.D. (University of Northern Colorado)
Director, Department of Independent Study by Correspondence Division of Continuing Education (1979-1979).

COBLE, YANK D. JR., M.D. (Duke University)
Professor and Chairperson of Community Health and Family Medicine (1979-1979).

COGGINS, WILMER J., M.D. (Duke University)
Professor of Community Health and Family Medicine (1975-1977).

COHN, STUART R., LL.B. (Yale)
Associate Professor of Law (1977-1977).

COHEN, HOWARD LIONEL, Ph.D. (University of Indiana)
Associate Professor of Astronomy (1968-1973).

COHEN, JERRY A., M.D. (University of Miami)
Assistant Professor of Anesthesiology (1977-1979).

COHEN, JOEL B., Ph.D. (University of California at Los Angeles)
Professor of Marketing and Chairman of Department of Marketing (1974-1974).

COHEN, LOUIS DAVID, Ph.D. (Duke University)
Professor of Clinical Psychology (1962-1962).

COHEN, MORTIMER, Ph.D. (University of Minnesota)
Professor (Plant Pathologist), IFAS Agricultural Research Center, Ft. Pierce (1956-1968).

COHEN, ROBERT J., Ph.D. (Yale University)
Associate Professor of Biochemistry and Molecular Biology (1971-1976).

COKER, BRENDA JO, B.S.
Extension Home Economics Agent (II), Okeechobee County (1974-1978).

COLAHAN, PATRICK T., D.V.M. (University of California at Davis)
Assistant Professor, Department of Surgical Sciences, College of Veterinary Medicine (1979-1979).

COLAIZZI, FRANK A., D.M.D. (University of Pittsburgh)
Associate Professor And Chairman of Removable Prosthodontics College of Dentistry (1977-1979).

COLBURN, DAVID RICHARD, Ph.D. (University of North Carolina)
Associate Professor of Social Sciences and History (1972-1977).

COLE, C. WHARTON, M.B.A. (University of Texas at Austin)
Major, U.S. Air Force, Assistant Professor of Aerospace Studies (1979-1979).

COLE, MAURICE F., Ph.D. (North Carolina State University)
Associate Professor (Extension District Agent) IFAS (1977-1977).

COLE, THOMAS WINSTON, Ed.D. (University of Texas)
Dean of Academic Affairs for Instructional Services and Professor of Educational Administraion (1971-1972).

COLLANTE, ERLINDA Y., M.D. (Far Eastern University)
University Physician (1975-1975).

COLETTE, WILLIAM A., Ph.D. (Iowa State University)
Associate Professor (Associate Agricultural Economist), IFAS (1975-1979).

COLGATE, SAMUEL ORAN, Ph.D. (Massachusetts Institute of Technology)
Associate Professor of Chemistry (1959-1966).

COLLE, DOUGLAS EDWARD, M.S. (Texas A&M University)
Assistant in Fisheries, IFAS (1974-1974).

COLLETT, WILLIAM K., D.D.S. Sc. D. (Univ. of Pittsburgh)
Professor of Oral Medicine, College of Dentistry (1968-1974).

COLLIER, COURTLAND A., M.E. (University of Florida)
Associate Professor of Civil Engineering (1961-1976).

COLLIER, ROBERT J., Ph.D. (University of Illinois)
Assistant Professor (Animal Physiologist), IFAS (1976-1976).

COLLINS, DOROTHY E., A.C.S.W. (University of Chicago)
Associate Professor of Social Work in Psychiatry (1966-1977)

COLLINS, J. FRANK, D.D.S., M.S.D. (Emory University)
Assistant Professor of Periodontics and Director of General Practice Residency Program, College of Dentistry (1979-1979).

COLLINS, WILLIAM A., Ph.D. (University of Washington) C.P.A. (Florida)
Assistant Professor of Accounting (1973-1975).

COMBS, GEORGE ERNEST, Ph.D. (Iowa State University)
*Professor (Animal Nutritionist) IFAS (1951-1967).**

CONDE, LOUIS F., Ph.D. (Duke University)
Assistant Research Scientist (1979-1979).

CONETTA, DONALD A., M.D. (Duke University)
Instructor of Medicine, JHEP (1977-1979).

CONKLIN, JAMES BYRON, JR., Sc.D. (MIT)
Director, Circa and Associate Professor of Physics (1961-1974).

CONNELL, RICHARD GRANT, Ph.D. (University of Florida)
Assistant Professor in Materials Science and Engineering (1973-1975).

CONNER, H. HENRY, M.A.
Assistant Professor of Journalism and Communications (1966-1973)

CONNER, J. WAYNE, Ph.D. (Princeton University)
Distinguished Service Professor of Romance Languages, and Chairperson of the Department (1962-1977).

CONNER, TOTSYE JOHNSON, M.Ed. (University of Georgia)
Instructor, P. K. Yonge Laboratory School (1968-1972).

CONOVER, CHARLES ALBERT, Ph.D. (University of Georgia)
Professor (Ornamental Horticulturist), and Center Director, Agricultural Research Center, Apopka (1963-1975).

CONOVER, ROBERT ARMINE, Ph.D. (University of Illinois)
Professor (Plant Pathologist), IFAS, Agricultural Research and Education Center, Homestead (1947-1975).

CONRAD, JOSEPH HENRY, Ph.D. (Purdue University)
Professor (Animal Nutritionist), Tropical Animal Science, IFAS (1971-1971).

CONRADT, DAVID PAUL, Ph.D. (Brown University)
Professor of Political Science (1968-1979).

CONROY, STEPHEN S., Ph.D. (University of Iowa)
Chairman of American Studies and Associate Professor of History (1960-1968).

CONTI, ANTHONY J., D.M.D. (New Jersey College of Dentistry), M.P.H. (University of North Carolina)
Associate Professor of Community Dentistry, College of Dentistry (1971-1976).

CONTI, C. RICHARD, M.D. (Johns Hopkins University)
Professor and Chief of Cardiology, VAH (1974-1974).

COOK, ALLYN AUSTIN, Ph.D. (University of Wisconsin)
Professor (Plant Pathologist) IFAS (1954-1967).

COONS, WILLIAM WARWICK, M.B.A. (George Washington Univ.)
Associate Engineer of Civil Engineering (1976-1976).

COOPER, WADE H., Ed.D. (University of Virginia)
Colonel, U.S. Marine Corp., Professor of Naval Science (1979-1979).

COPE, GENE E. D.V.M., (Texas A&M University)
Associate Professor (Extension Veterinarian) Department of Preventive Medicine, College of Veterinary Medicine, IFAS (1979-1979).

COPELIN, JOHNNY LANDON, Ph.D. (Texas Tech University)
Assistant Professor (Animal Nutritionist), IFAS (1976-1976).

CORAM, WILMER THOMAS, JR., M.A.E. (University of Florida)
Coordinator, Department of Extended Services, Division of Continuing Education (1957-1969).

CORBETT, WELLESLEY T. JR., E.D.D. (University of Florida)
Assistant Professor, P.K. Yonge (1973-1976).

CORMAN, LOURDES C., M.D., (Women's Medical College of Pennsylvania)
Assistant Professor of Medicine (1979-1979).

CORNELIUS, CHARLES E., D.V.M., Ph.D. (Univ. of Cal., Davis)
Dean, College of Veterinary Medicine, Professor of Pathology and Medicine (1971-1973).

CORNELIUS, WILLIAM G., Ph.D. (University of Minnesota)
Assistant Professor of Management & Director of M.B.A. Program (1972-1972).

CORNELL, JOHN ANDREW, Ph.D. (Virginia Polytechnic Institute)
Professor, (Statistician), IFAS (1968-1978).

COSCIA, FRANK A., D.D.S. (Georgetown University)
Assistant Professor of Oral Medicine, College of Dentistry (1977-1977).

COUCH, LEON WORTHINGTON, II, Ph.D. (University of Florida)
Associate Professor of Electrical Engineering (1967-1974).

COUCH, MARGARET W., Ph.D. (University of Florida)
Assistant Research Professor, Radiation Chemistry, VAH (1969-1971).

COUNTS, FRANK S., M.S.
Assistant Professor of Journalism and Communications, Producer-Director, Television Station WUFT (1972-1975).

COURAGE, KENNETH GRANT, MSCE (Texas A&M University)
Associate Professor of Civil Engineering (1971-1976).

COURAGE, MYRNA, M.N. (University of Florida)
Assistant Professor College of Nursing (1976-1978).

COVEY, CHARLES DEAN, Ph.D. (Louisiana State University)
Professor, Food and Resource Economics Department, IFAS (1957-1967).

COX, MERLIN GWINN, Ph.D. (University of Florida)
*Associate Professor of Social Sciences and History (1955-1966).**

COX, RODNEY E., Ph.D. (Iowa State University of Science & Technology)
Professor of Building Construction (1979-1979).

COX, SHERYL P., M.A. (University of West Florida)
Instructor P. K. Yonge Laboratory School (1979-1979).

CRAIG, STEPHEN C., Ph.D. (Northwestern University)
Assistant Professor of Political Science (1979-1979)

CRAIN, EDWARD E., M.A. (University of Miami)
Professor of Architecture (1973-1978).

CRALL, JAMES MONROE, Ph.D. (University of Missouri)
Professor (Plant Pathologists) IFAS Agricultural Research Center, Leesburg (1952-1954).

CRAMER, JOSEPH B., J.D. (University of Georgia)
Associate University Attorney (1978-1978).

CRANDALL, CATHERINE A., Ph.D. (Purdue University)
Associate Professor of Pathology (1960-1977).

CRANDALL, LEE A., Ph.D. (Purdue University)
Assistant Professor of Community Health and Family Medicine (1976-1977).

CRANDALL, PHILLIP G., Ph.D. (Purdue University)
Assistant Professor (Assistant Food Scientist), IFAS, AREC-Lake Alfred (1975-1975).

CRANDALL, RICHARD B., Ph.D (Purdue University)
Professor of Immunology and Medical Microbiology (1960-1974).

CRANE, STEPHEN W., D.V.M. (Univ. of California at Davis)
Assistant Professor, Acting Department Chairman, Department of Surgical Sciences, College of Veterinary Medicine (1977-1977).

CRAVEN, ROY C., JR., M.F.A. (University of Florida)
*Director, University Gallery; Professor of Art (1954-1967).**

CRAVENS, SALLY ANN, M.A.
Librarian, Documents (1967-1976).

CREEL, AUSTIN BOWMAN, Ph.D. (Yale University)
*Professor of Religion and Chairperson of Department (1957-1977).**

CREVASSE, LAMAR E., M.D. (Duke University)
Professor of Medicine and Assistant Dean for Continuing Medical Education (1959-1969).

CREWS, HARRY EUGENE, M.E.D. (University of Florida)
Professor of English (1968-1976).

CREWS, RUTHELLEN, Ed.D. (Columbia University)
Professor of Education (1966-1972).

CRIBBETT, ALBERT F., M.S.A. (University of Florida)
Executive Assistant for Agricultural Affairs and Assistant Professor of Agricultural Economics, IFAS (1954-1967).

CRIPE, WYLAND S., D.V.M. (University of California at Davis)
Associate Professor, Department of Preventive Medicine and Assistant Dean for Public Services, College of Veterinary Medicine (1972-1974).

CRISMAN, THOMAS L., Ph.D. (Indiana University)
Assistant Professor of Environmental Engineering Sciences (1977-1977).

CROCKER, LINDA M., Ph.D. (Michigan State University)
Associate Professor of Education (1974-1977).

CROCKER, TIMOTHY EUGENE, Ph.D (Michigan State University)
Associate Professor (Associate Extension Horticulturist), IFAS, (1970-1975).

CROCKETT, JOE RICHARD, Ph.D. (University of Florida)
Associate Professor (Associate Animal Geneticist), IFAS, Agricultural Research Center, Belle Glade (1960-1969).

CROMROY, HARVEY L., Ph.D. (North Carolina State University)
Professor of Entomology, IFAS (1974-1975).

CROMWELL, RICHARD PARK, M.E. (University of Florida)
Associate Professor (Associate Agricultural Engineer), IFAS, (1967-1977).

CRONE, ERNEST G., M.Ed. (University of North Carolina)
Assistant Professor of Health Education and Safety (1957-1963).

CROOK, FRANCES M., B.S.B.A. (University of Florida)
Associate Director of Personnel (1960-1976).

CROSLAND, ROBERT ELDER, M.A. Arch. (University of Florida)
Professor of Building Construction (1971-1976).

CROSS, CLARK IRWIN, Ph.D. (University of Washington)
Professor of Geography and Physical Sciences (1949-1979)

CROWDER, L. VAN, M.S. (Cornell University)
Assistant Research Scientist, International Programs, IFAS, Bolivia (1978-1978).

CROWLEY, PATRICIA MAE, M.A. (University of Minnesota)
Assistant Librarian, J. Hillis Miller Health Center Library (1974-1974).

CRUM, ROY LEE, Ph.D. (University of Texas at Austin)
Assistant Professor of Finance (1974-1974).

CRUMP, MARTHA L., Ph.D (University of Kansas)
Assistant Professor of Zoology (1976-1976).

CRUZ, AMELIA C., M.D. (Far Eastern University)
Associate Professor of Obstetrics and Gynecology (1973-1979)

CSIZINSZKY, ALEXANDER A., Ph.D. (Washington State Univ.)
Assistant Professor (Assistant Horticulturist), IFAS, Agricultural Research and Education Center, Bradenton (1976-1976).

CULLEN, STANLEY I., M D. (University of Miami)
Associate Professor of Medicine (1969-1969).

CUNNINGHAM, HUGH W., M.A. (University of Missouri)
Director of University Information, Assistant to the President, Journalism (1955-1973).

CUNNINGHAM, WALTER R., Ph.D. (University of Southern California)
Associate Professor of Psychology, Gerontology, and Clinical Psychology (1974-1979).

CURRAN, ROBERT LYNN, Ed.D. (Harvard University)
Professor of Education (1952-1969)

CURREY, WAYNE LEE, Ph.D. (University of Connecticut)
Associate Professor of Agronomy , IFAS (1970-1975).

CURRIER, BARRY A., J.D. (University of Southern California)
Associate Professor of Law (1977-1977).

CURRY, ROBERT WHIT, M.D. (Duke University)
Assistant Professor of Community Health and Family Medicine (1977-1977)

CURTIS, CLAYTON C., Ph.D. (Indiana University)
Associate Professor of Real Estate and Urban Analysis (1958-1961).

CURTIS, ROBERT L., M.P.A.
Assistant in Pharmacy and Assistant to the Dean (1975-1975).

DALLMAN, JOHN J., M.D., (Medical College of Georgia)
Assistant Professor of Community Health and Family Medicine (1979-1979).

DALSHEIMER, BARBARA CORINNE, M.P.H. (University of Florida)
University School Assistant Professor, P.K. Yonge Laboratory School (1954-1978).

DALTON, GEORGE RONALD, Ph.D. (University of Michigan)
*Professor of Nuclear Engineering Sciences (1959-1968).**

DALY, JAMES W., M.D. (Loyola University)
Professor of Obstetrics and Gynecology and Head of Oncology (1968-1977).

DAMICO, ALFONSO J., Ph.D. (Ohio State University)
Associate Professor of Political Science (1969-1975).

D'AMICO, ROBERT, Ph.D. (State University of New York at Buffalo)
Associate Professor of Philosophy (1974-1979).

DAMICO, SANDRA, Ph.D. (University of Florida)
Associate Professor of Social Foundations of Education (1969-1977).

DAMRON, BOBBY LEON, Ph.D. (University of Florida)
Associate Professor and Associate Nutritionist, IFAS, (1966-1974).

DANIELS, A.W., M.Ed. (University of Florida)
Lesturer and Assoc. Director, Office of Instructional Resources (1971-1971).

DANKEL, DOUGLAS D. II, Ph.D. (University of Illinois)
Assistant Professor of Computer and Information Sciences, College of Engineering (1978-1978).

DANTZMAN, CHARLES LEONARD, Ph.D. (University of Florida)
Associate Professor (Associate Soils Chemist) IFAS, Agricultural Research Center, ONA (1959-1979).

DARBY, JOHN F., Ph.D. (University of Wisconsin)
Professor (Plant Pathologist) and Center Director, IFAS, Agricultural Research and Educational Center, Sanford (1951-1966).

DARR, JOHN, M.B.A. (University of Florida)
Head Golf Coach, (1976-1979)

DASTA, ANTHONY JOSEPH, M.S. (University of Illinois)
Associate Professor of Architecture (1966-1975).

DAUER, MANNING JULIAN, Ph.D. (University of Illinois) Litt. D. (University of West Florida)
*Distinguished Service Professor of Political Science (1933-1972).**

DAVENPORT, JOHN YOUNG, (Med. Univ of South Carolina)
Assistant Professor of Community Health and Family Medicine, JHEP (1977-1977).

DAVENPORT, THOMAS LEE, Ph.D. (Texas A&M University)
Assistant Professor (Assistant Plant Physiologist), IFAS Agricultural Research and Education Center, Homestead (1977-1977).

DAVIDSON, JAMES MELVIN, Ph.D. (University of California, Davis)
Professor, (Soil Physics), Assistant Dean for Research, IFAS (1974-1979).

DAVIDSON, JOHN LEITCH, Ph.D. (Purdue University)
Associate Professor of Civil Engineering (1972-1977).

DAVIES, FREDERICK STANLEY, Ph.D. (Cornell University)
Assistant Professor, (Assistant Horticulturist), IFAS (1978-1978).

DAVIS, BILLY HAMPTON, Ed.D. (University of Florida)
Assistant Professor of Behavioral Studies, Adviser (1970-1971).

DAVIS, CARLTON GEORGE, Ph.D. (Michigan State University)
Associate Professor, Food and Resource Economics Department, IFAS, (1970-1975).

DAVIS, FRANCIS C. Jr., Ph.D. (University of Tennessee)
Associate Professor , Microbiology and Cell Science, IFAS (1971-1971)

DAVIS, HORANCE GIBBS, Jr., M.A.
Distinguished Service Professor of Journalism and Communications (1954-1977).

DAVIS, HUGH CHESTER, JR., Ph.D. (University of Tennessee)
Professor of Clinical Psychology (1960-1970).

DAVIS, J. RONNIE, Ph.D. (University of Virginia)
Professor of Economics (1971-1974).

DAVIS, JOSEPH STEVEN, Ph.D. (University of Iowa)
Professor of Botany, Arts and Sciences (1966-1977).

DAVIS, JOY H., Ed.D. (University of Florida)
Assistant Professor, College of Nursing (1975-1975).

DAVIS, R. HUNT, JR., Ph.D. (University of Wisconsin)
Associate Professor of History (1967-1976).

DAWSON, WILLIAM W., Ph.D. (Florida State University)
Professor of Ophthalmology, Physiology, Psychology and Neuroscience (1965-1969).

DAY, JANE ANN, M.A. (University of Alabama, Birmingham)
Visiting Assistant Professor of Physical Therapy (1977-1977).

DAY, ARTHUR L., M.D. (Louisiana State University)
Assistant Professor of Surgery (1978-1978).

DEAKIN, MOTLEY FREMONT, Ph.D. (Univ. of Calif. at Berkeley)
Associate Professor of English (1962-1977).

DEAKTOR, DARRYL B., J.D. (University of Pennsylvania)
Associate Professor of Law (1972-1974).

DEAL, WILLIAM B., M.D. (University of North Carolina)
Vice President for Health Affairs and Dean, College of Medicine, Professor of Medicine, Community Health and Family Medicine and Pharmacy (1964-1978).

DEAN, CHARLES EDGAR, Ph.D. (North Carolina State Univ.)
Professor, and Chairperson of Department (Agronomist), IFAS (1959-1979).

DEAN, NANCY E., M.Ed. (University of Florida)
Instructor P. K. Younge Laboratory School (1973-1978).

DE BEAUGRANDE, ROBERT ALAIN, Ph.D. (Univ. of Cal. at Irvine)
Assistant Professor of English and Linguistics (1978-1978).

DEBUSK, FRANKLIN L., M.D. (Johns Hopkins University)
Professor of Pediatrics and Director of Pediatric Clinic (1966-1973).

DEEVEY, EDWARD S. JR., Ph.D. (Yale University)
Graduate Research Curator, Florida State Museum and Joint Graduate Research Professor of Zoology, Botany, Geology, and Latin American Studies (1971-1971).

DEFUNIAK, H.R., M.S.
Librarian and Chairperson of Circulation (1966-1976).

DEGNER, JANET D., M.S. (Texas A & M University)
Assistant in Engineering (1977-1978).

DEGNER, ROBERT L., Ph.D. (Texas A & M University)
Assistant Professor and Research Economist, Food and Resource Economics Department, IFAS (1976-1976).

DEHOFF, ROBERT THOMAS, Ph.D. (Carnegie - Mellon University)
Professor of Materials Science and Engineering (1959-1970).

DE LA TORRE, JOSE I., M.D. (University of Havana)
University Psychiatrist (1979-1979).

DELGADO, FRANK III, D.M.D. (University of Florida)
Instructor of Endodontics, College of Dentistry (1978-1978).

DELONY, DEXTER, L.L.M. (Harvard University)
Professor of Law (1948-1951).

DELL, PAUL C., M.D. (University of Florida)
Assistant Professor of Orthopaedic Surgery (1978-1978).

DE LOS SANTOS, ANTHONY E., M.S.
*Assistant Professor of Journalism and Communications (1970-1973).**

DE MOSS, MICKIE, M.Ed. (Memphis State)
Head Women's Basketball Coach (1979-1979).

DENCE, LILLIAN MARIE C., M.A.E. (University of Florida)
Assistant Director for User Services (1973-1978).

DENG, JUENCHIN, Ph.D. (University of Georgia)
Associate Professor (Associate Seafood Technologist), IFAS (1974-1979).

DENNISON, RAYMOND ALEXANDER, Ph.D. (University of Iowa)
Professor, (Food Scientist), IFAS (1945-1978).

DENSLOW, DAVID ALBERT, Ph.D. (Yale)
*Associate Professor of Economics (1970-1975).**

DENSON, ROBERT J., J.D. (University of Florida)
Assistant Dean and Director, Student Judicial Affairs and Outreach Programs (1973-1977).

DEPADUA, CONSTANTE B., M.D. (University of the Philippines)
Associate Professor of Anesthesiology (1967-1974).

DER-HOUSSIKIAN, HAIG, Ph.D. (University of Texas)
Professor of Foreign Languages and Linguistics (1967-1978).

DERRICK, CLARENCE, Ph.D. (University of Chicago)
Professor of Humanities (1953-1962).

DETWEILER, JOHN S., Ed.D. (University of Florida)
Professor of Journalism and Communications (1965-1979).

DEW, DONALD, Ph.D. (University of Iowa)
Professor of Speech (1963-1977).

DEWITT, ROBERT M., Ph.D. (University of Michigan)
Associate Professor and Vice Chairperson, Department of Zoology (1954-1975).

DEWSBURY, DONALD ALLEN, Ph.D. (University of Michigan)
Professor of Psychology (1966-1973).

DEYRUP, JAMES A., Ph.D. (University of Illinois)
Assistant Dean, Preprofessional Education, Colleges of Medicine and Dentistry and Professor of Chemistry (1965-1974).

DIAZ, NILS JUAN, Ph.D. (University of Florida)
Professor of Nuclear Engineering Sciences (1969-1979).

DICKERSON, LAUREL B., Ph.D. (Michigan State University)
Assistant Professor in Education (1977-1978).

DICKSON, DONALD WARD, Ph.D. (North Carolina State)
Professor in Entomology IFAS (1968-1979).

DICKISON, SHEILA K., Ph.D. (Bryn Mawr College)
Associate Professor of Classics (1976-1976).

DILLER, GEORGE T., Ph.D. (Stanford University)
Associate Professor of French (1968-1973).

DINCULEANU, NICOLAE, Ph.D. (University of Bucharest)
Professor of Mathematics (1977-1977).

DINNING, JAMES S., Ph.D. (Oklahoma State University)
Associate Research Scientist, IFAS (1976-1978).

DIRECTOR, KENNETH L., M.D. (Albany Medical College)
Assistant Professor, VAH (1976-1976).

DOCKERY, J. Lee, M.D. (University of Arkansas)
Associate Professor of Obstetrics and Gynecology and Associate Dean for Academic Affairs (1975-1978).

DODDINGTON, HAROLD WILLIAM , Ph.D. (University of Florida)
Associate Engineer in Engineering Sciences (1974-1976).

DOBSON, RON L., M.B.A.(Tulane University)
Assistant in Research, Bureau of Economic and Business Research (1979-1979).

DOERING, PAUL LOUIS, M.S.P.
Assistant Profesor of Pharmacy (1976-1976).

DOHERTY, HERBERT JOSEPH, Ph.D. (Univ. of North Carolina)
Professor of History and Social Sciences and Director of Social Sciences and Behavioral Studies (1949-1978).

DOLBIER, DONNA TINDALL, MAPE (University of Florida)
Women's Softball Coach, (1976-1976).

DOLBIER, WILLIAM READ, JR., Ph.D. (Cornell University)
Professor of Chemistry (1966-1975).

DOMINIAK, KENNETH E., Ph.D. (Polytechnic Institute of Brooklyn)
Associate Research Scientist of Electrical Engineering (1970-1978).

DONELIN, DANIEL WILLIAM, M.L.A. (Michigan State University)
Associate Professor of Landscape Architecture (1970-1976).

DONIVAN, FRANK FORBES, JR., Ph.D. (University of Florida)
Associate Professor of Astronomy (1970-1977).

DONNELLY, WILLIAM H., M.D. (University of Ottawa, Canaada)
Associate Professor of Pathology and Pediatrics (1971-1976).

DONSELMAN, H. M., Ph.D. (Purdue University)
Assistant Professor (Extension Ornamental Horticulturist), IFAS Agricultural Research Center, Ft. Lauderdale (1976-1976).

DORMAN, P. E., Ed.D. (State University of New York)
Associate Professor of Music (1971-1971).

DORSEY, JOHN G., Ph.D. (University of Cincinnati)
Assistant Professor of Chemistry (1979-1979).

DOSE, ERIC VON, Ph.D. (Rice University)
Assistant Professor of Chemistry (1979-1979).

DOTY, KEITH LONNIE, Ph.D. (University of California)
Associate Professor of Electrical Engineering (1968-1973).

DOUGAN, THOMAS R., M.S. (Western Illinois University)
Assistant Dean for Student Services (1977-1977).

DOUGHERTY, DAVID EDWARD, Ph.D. (University of Georgia)
Assistant Professor (Assistant Plant Pathologist), IFAS Agricultural Research and Education Center, Immokalee (1977-1977).

DOUGHERTY, MOLLY CROCKER, Ph.D. (University of Florida)
Associate Professor, College of Nursing (1973-1973).

DOUGHTY, PAUL L., Ph.D. (Cornell University)
Professor of Anthropology (1971-1971).

DOUGLAS, CARROLL REECE, Ph.D. (University of Tennessee)
Professor (Extension Poultryman), IFAS (1969-1979).

DOW, J. KAMAL, Ph.D. (University of Missouri)
Associate Professor (Assoc. Ag. Econ.), IFAS (1968-1973).

DOWELL, R. V., Ph.D. (Ohio State University)
Assistant Research Scientist (Assistant Entomologist), IFAS Agricultural Research Center, Ft. Lauderdale (1976-1977).

DOWNIE, RICHARD D., Ph.D. (Michigan State University)
Assistant Dean and Director, International Student Services (1976-1976).

DOWNS, JOHN B., M.D. (University of Florida)
Associate Professor of Anesthesiology and Surgery, VAH (1975-1977).

DRAKE, DAVID ALLYN, Ph.D. (Syracuse University)
Associate Professor of Mathematics (1968-1973).

DRESDNER, RICHARD DAVID, Ph.D. (Pennsylvania State University)
Professor of Chemistry (1953-1966).

DROST, MAARTEN, D.V.M. (Iowa State)
Professor and Chairman, Department of Reproduction, College of Veterinary Medicine (1977-1978).

DRUM, CAROL ANN, M.L.S.
Associate Librarian in Charge of Chemistry Library (1972-1977).

DRUMMOND, H. EVAN, Ph.D. (Purdue University)
Professor, Food and Resource Economics, IFAS, (1979-1979).

DRUMMOND, WILLA H., M.D. (University of Pennsylvania)
Assistant Professor of Pediatrics (1978-1978).

DRUMMOND, WILLIAM H., Ed.D. (Stanford University)
Professor of Education (1972-1972).

DRYLIE, DAVID M., M.D. (Bowman Gray University)
Professor of Surgery and Chief, Urology (1963-1974).

DUCHARME, ERNEST P., Ph.D. (University of Minnesota)
Professor (Assistant Center Director and Plant Pathologist) IFAS, AREC-Lake Alfred (1946-1956).

DUCKWORTH, ALISTAIR M., Ph.D. (John Hopkins University)
Associate Professor of English (1973-1973).

DUCKWORTH, DONNA H., Ph.D. (John Hopkins University)
Associate Professor of Immunology and Medical Microbiology (1973-1975).

DUDECK, A. E., Ph.D. (Pennsylvania State University)
Associate Professor (Associate Ornamental Horticulturist), IFAS, (1970-1973).

DUFFY, JOSEPH, Ph.D. (Liverpool, U.K.)
Professor of Mechanical Engineering (1979-1979)

DUFTY, JAMES WELLONS, Ph.D (Lehigh University)
Professor of Physics (1970-1978).

DUGAN, EDWARD THOMAS, Ph.D. (University of Florida)
Visiting Assistant Professor of Nuclear Engineering Sciences (1977-1977).

DUGAN, ROBERT JOHN, M.S.E (University of Florida)
Associate in Engineering Sciences (1969-1977).

DUGGAN, DENNIS E., Ph.D. (Oregon State University)
Associate Professor, Microbiology and Cell Science, Associate Microbiologist, IFAS (1969-1969).

DUNAVANT, BILLY G., Ph.D. (Purdue University)
Director, Environmental Health and Safety; Professor of Nuclear Engineering Sciences, Environmental Engineering Sciences, and Basic Dental Sciences (1960-1966).

DUNAVIN, LEONARD SYPRET, JR., Ph.D. (University of Florida)
Associate Professor (Associate Agronomist), IFAS Agricultural Research Center, Jay (1959-1967).

DUNCAN, ANDREW ADRIAN, Ph D. (University of Maryland)
Professor and Center Director, Agricultural Research and Education Center, Homestead, IFAS (1975-1975).

DUNCAN, CATHERINE H., M.S.P
Assistant in Pharmacy (1979-1979).

DUNCAN, R. PAUL, Ph.D. (Purdue University)
Associate Professor of Health and Hospital Administration (1979-1979).

DUNCAN, RUTH, M.A. (University of Alabama)
University School Assistant Professor, P. K. Yonge Laboratory School (1972-1978).

DUNCAN, WILLIAM GRAHAM, Ph.D (Purdue University)
Professor of Agronomy, IFAS (1970-1970).

DUNKLE, JOHN ROBERT, Ph.D. (Clark University)
Professor of Physical Sciences and Geography; Assistant Dean Liberal Arts and Sciences (1949-1965).

DUNN, ADRIAN I., Ph.D. (University of Cambridge)
Associate Professor of Neuroscience (1973-1977).

DUNN, BEN M., Ph.D. (University of California)
Assistant Professor of Biochemistry and Molecular Biology (1974-1974).

DUNN, ROBERT A., Ph.D. (Cornell University)
Assistant Professor (Assistant Nematologist), IFAS (1975-1975)

DUNNAM, FRANCIS EUGENE, Ph D. (Louisiana State University)
Associate Dean of the College of Liberal Arts and Sciences and Professor of Physics (1958-1979).

DUPREE, HERBERT, M.A. (University of Cincinnati)
Assistant Professor of Geography and Social Sciences (1977-1979)

DUPREE, SHERRY A., A.M.L.S.
Assistant Librarian, Reference and Bibliography (1977-1977).

DURRANCE, KENNETH LEROY, M.Ag
Professor (Animal Husbandman), IFAS (1954-1976).

DUTOIT, BRIAN MURRAY, Ph.D (University of Oregon)
Professor of Anthropology (1966-1975)

DYKES, ELMA ETHEL, M.A. (New York University)
Associate Professor, College of Nursing (1962-1978)

DYKES, MARY KAY, Ph.D. (University of Texas)
Associate Professor of Education (1972-1977).

EADES, JAMES LYNWOOD, Ph.D. (University of Illinois)
Associate Professor of Geology and Civil Engineering and Chairperson of Geology (1970-1973).

EARLE, HARRY A., P.A.C. (University of Florida)
Physician's Assistant (1977-1977).

EASLEY, JOHN FOREST, M.S.
Assistant Professor (Assistant Animal Nutritionist) IFAS (1962-1962).

EASTON, IAN, Ph.D. (University of Florida)
Administrative Director, Outpatient Clinics (1975-1975).

EASTWOOD, RALPH ALLEN, Ph.D. (Cornell)
Professor, Food and Resource Economics Department, IFAS, (1957-1957).

EBCIOGLU, IBRAHIM K., Ph.D. (University of Minnesota)
Professor of Engineering Sciences (1961-1966).

EBURNO, JOSEPH V., M.S. (University of Southern California)
Captain, U.S. Air Force, Assistant Professor of Aerospace Studies (1977-1977).

ECKDAHL, JACK POLK, M Ed. (University of Missouri)
Associate Professor of Recreation (1951-1979).

EDDS, GEORGE TYSON, D.V.M. (Texas A & M University), Ph.D. (University of Minnesota)
Professor (Veterinarian), Department of Preventive Medicine, College of Veterinary Medicine-IFAS, (1962-1971).

EDDY, ELIZABETH M., Ph.D. (Columbia University)
Professor of Anthropology (1967-1977).

EDMOND, CLARENCE D., Ph.D. (Iowa State)
Director & Professor, Community and Rural Development IFAS, (1977-1977).

EDSON, CHARLES GRANT, M.S.E. (University of Florida)
Associate Professor of Engineering Sciences (1946-1951).

EDWARDS, BRUCE HAVEN, Ph.D. (Dartmouth College)
Assistant Professor of Mathematics (1976-1976).

EDWARDS, GEORGE JOHN, B.A.
Assistant Professor (Assistant Biochemist, IFAS, Agricultural Research and Educational Center, Lake Alfred (1953-1970).

EDWARDSON, JOHN RICHARD, Ph.D. (Harvard University)
Professor of Agronomy, IFAS (1953-1966).

EDWARDSON, MICKIE N., Ph.D. (Michigan State University)
*Professor of Journalism and Communications (1956-1971).**

EICHHORN, HEINRICH KARL, Dr. Phil. (University of Vienna)
Professor of Astronomy and Chairman (1979-1979).

EIDSON, GERALD H., B.S.
Associate in Medical Program Development, Office of Vice President for Health Affairs, J. Hillis Miller Health Center (1975-1975).

EISENBERG, MARTIN ALLAN, D.Eng. (Yale University)
Professor of Engineering Sciences (1966-1975).

EITZMAN, DONALD V., M.D. (University of Iowa)
Distinguished Service Professor (1958-1979).

ELDRIDGE, J. EVAN, M.S.E.E. (Fla Institute of Technology)
Computer Research Specialist, Bureau of Economic and Business Research (1971-1975).

ELGERD, OLLE INGEMAR, D.SC. (Washington University of St. Louis, Missouri)
*Professor of Electrical Engineering (1956-1962).**

ELIADES, DON, P.A.C. (University of Florida)
Physician's Assistant (1977-1977).

ELKINS, VIRGIL LYNN, M.S.A. (Florida A & M)
Professor, Food and Resource Economics Department, IFAS (1949-1961).

ELLENSON, EUGENE, B.A. (Georgia)
Director of Gator Boosters (1960-1974).

ELLIOTT, HERSCHEL HUGH, Ph.D. (Yale University)
Associate Professor of Philosophy (1955-1960).

ELLIOTT, ROGER W., Ph.D. (University of Texas)
Professor and Chairman of Computer and Information Sciences, College of Engineering (1977-1977).

ELLIS, GEORGE L., Ph.D. (University of Florida),
Assistant Research Scientist and Chief of Party International Programs, IFAS, INIAP, Ecuador (1979-1979).

ELLIS, WILLIAM HOBART, Ph.D. (Florida State University)
Associate Professor of Nuclear Engineering Sciences (1962-1966).

ELMORE, WILLIAM E., B.S. C.P.A (The Citadel)
Vice President for Administrative Affairs (1950-1967)

ELMSTROM, GARY WILLIAM, Ph.D. (University of California)
Associate Professor (Associate Horticulturist), and Center Director, IFAS Agricultural Research Center, Leesburg (1969-1974).

ELNICKI, RICHARD A., D.B.A (Harvard University)
Associate Professor of Management and Associate Professor of Health and Hospital Administration (1971-1971).

ELZINGA, DONALD JACK, Ph.D. (Northwestern University)
Professor and Chairman of Industrial and Systems Engineering (1979-1979).

EMERSON, ANN P., M.S. (University of Florida)
Program Director and Associate Professor, Department of Clinical and Community Dietetics, IFAS (1969-1974).

EMERSON, ROBERT D., Ph.D. (Purdue University)
Associate Professor, Food and Resource Economics Department, IFAS (1970-1976).

EMMEL, THOMAS C., Ph.D. (Stanford University)
Professor and Chairperson, Department of Zoology (1968-1976).

ENG, ROBENA, A.M.L.S. (University of Michigan)
Assistant Librarian, Architecture and Fine Arts Library (1978-1978).

ENGEBRETSON, MARY E., M.B.A. (Arizona State University)
Associate Librarian, Reference and Bibliography (1978-1978).

ENGELHARD, ARTHUR W., Ph.D. (Iowa State University)
Professor (Plant Pathologist), IFAS Agricultural Research and Education Center, Bradenton (1966-1977).

ENNEKING, WILLIAM F., M.D. (University of Wisconsin)
Professor and Chairperson, Department of Orthopaedic Surgery (1959-1974).

ENNIS, WILLIAM B., Ph.D. (University of Wisconsin)
Professor and Center Director, IFAS, Agricultural Research Center, Ft. Lauderdale (1975-1975).

ENO, CHARLES FRANKLIN, Ph.D. (Purdue University)
Professor (Soil Microbiologist) and Chairperson of Soil Science Department, IFAS (1950-1965).

ENOCH, JAY M., Ph.D. (Ohio State University)
Graduate Research Professor of Ophthalmology (1973-1973).

ENTNER, MARVIN LEE, Ph.D. (University of Minnesota)
Associate Professor of History (1961-1968).

EOFF, KAY MARVIN, Ph.D. (University of Florida)
Assistant Professor of Geography and Physical Sciences (1962-1968).

EPPES, BILL GORTON, M. Arch. (University of Texas)
Professor of Building Construction (1968-1973).

EPTING, FRANZ R., Ph.D. (Ohio State University)
Professor of Psychology (1967-1979).

ERISMAN, JOHN G., Ph.D. (University of Illinois)
Associate Professor (Associate Agricultural Engineer) IFAS (1975-1975).

EVANS, MARTIN T., M.D. (Tulane University)
Instructor of Surgery, VAH (1978-1978).

EVERETT, PAUL HARRISON, Ph.D. (Purdue University)
Professor (Soils Chemist), IFAS Agricultural Research Center, Immokalee (1958-1968).

EWEL, JOHN J., Ph.D. (University of North Carolina)
Associate Professor of Botany, Arts and Sciences (1971-1976).

EWEL, KATHERINE C., Ph.D. (University of Florida)
Assistant Professor, IFAS (1972-1977).

EYLER, JOHN ROBERT, Ph.D. (Stanford University)
Associate Professor of Chemistry (1974-1979).

FABRICK, ARTHUR L., A.C.S.W. (University of North Carolina)
Associate Professor of Social Work in Psychiatry (1959-1970).

FAGERBERG, SEIGFRED WALTER, Ed.D. (Univ. of So. Mississippi)
Professor of Health, Education and Safety (1971-1979).

FAHIEN, RAYMOND W., Ph.D. (Purdue University)
Professor of Chemical Engineering (1964-1964).

FAIRBANKS, CHARLES H., Ph.D. (University of Michigan)
Distinguished Service Professor of Anthropology (1963-1976).

FARAH, JOHN W., D.D.S., Ph.D. (University of Michigan)
Associate Professor of Dental Biomaterials, College of Dentistry (1978-1978).

FARBER, ERICH ALEXANDER, Ph.D. (Iowa)
Distinguished Service Professor of Mechanical Engineering (1954-1979).

FARICY, JOHN H., Ph.D. (University of Minnesota)
Assistant Dean of Undergraduate Study, College of Business Administration and Professor of Marketing (1966-1978).

FARMER, K. BOLLING, Ph.D. (University of Texas)
Assistant Professor of Mathematics (1974-1974).

FARRAH, SAMUEL R , Ph D. (Penn State University)
Assistant Professor, Microbiology and Cell Science, IFAS (1977-1977).

FARRINGTON, WILLIAM S., Ph.D. (Ohio State University)
Associate Professor of Agricultural and Extension Education (1974-1979).

FAST, THOMAS B., D.D.S. (Ohio State University)
M.S.D. (Indiana University) Assistant Dean for Clinical Affairs and Professor of Oral Medicine, College of Dentistry (1971-1974).

FAUQUET, THOMAS WILLIAM, M.Ed. (University of Florida)
Acting Director, Division of Continuing Education (1979-1979).

FEARN, RICHARD LEE, Ph.D. (University of Florida)
Professor of Engineering Sciences (1965-1979).

FEARNEY, EDWARD MAURICE, B. Arch. (Carnegie Institute)
*Associate Professor of Architecture (1946-1958).**

FEASTER, JOHN PIPKIN, Ph.D. (University of North Carolina)
Professor (Biochemist), IFAS (1951-1968).

FEINBERG, ROBERT M., B.S., B.A. (University of Florida)
Associate Director, Office of Instructional Resources (1962-1974).

FEINSINGER, PETER, Ph.D. (Cornell University)
Assistant Professor of Zoology (1976-1976).

FEISS, C., M.C.P., F.A.I.A., AICP (M.I.T.)
Professor of Urban and Regional Planning (1971-1975).

FELDHERR, CARL M., Ph.D. (University of Pennsylvania)
Professor of Anatomy and Biochemistry (1967-1977).

FELDMAN, ALBERT W., Ph.D. (University of Minnesota)
Professor (Plant Pathologist) IFAS, AREC-Lake Alfred (1959-1959).

FELDMAN, JACK M., Ph.D. (University of Illinois)
Associate Professor of Management (1972-1972).

FELDMAN, ROBERT L., M.D., (Rutgers University)
Assistant Professor of Medicine (1979-1979).

FELMAN, ALVIN H., M.D. (University of Cincinnati)
Professor of Radiology (1969-1974).

FENNELL, EILEEN B., Ph.D (University of Florida)
Assistant Professor of Clinical Psychology (1978-1978).

FENNELL, ROBERT S., III, M.D. (University of Florida)
Associate Professor of Pediatric Nephrology and Medical Director for the Comprehensive Children's Kidney Treatment Center (1973-1979).

FENNO, CHARLES C., M.B.A. (Columbia University)
Associate Director of Development Foundations and Corporations (1974-1974).

FERGUSON, RAYMOND CARL, M.Ed. (Penn State University)
Associate Professor of Education (1962-1975).

FERGUSON, SARAH CAROLINE, M.S. (Columbia)
Associate Librarian, P. K. Yonge Laboratory School (1951-1962).

FEY, THOMAS F., E.D.D. (University of Florida)
Assistant Professor and Associate Director, P. K. Yonge Laboratory School (1978-1978)

FIELD, F. PETER, Ph.D. (University of Florida)
Associate Professor of Pharmacy and Physiology and Associate Chairman, Pharmacy (1973-1973).

FIELDS, MICHAEL J., Ph.D. (Texas A&M University)
Assistant Professor (Assistant Animal Physiologist), IFAS (1973-1973).

FILLMER, HENRY T., Ph.D. (University of Ohio)
Professor of Education (1967-1972).

FINGER, KENNETH FRANKLIN, Ph.D. (University of Wisconsin)
Associate Vice President for Health Affairs, Professor, College of Pharmacy (1968-1974).

FINLAYSON, BIRDWELL, M.D., Ph.D. (University of Chicago)
Professor of Surgery (1967-1973).

FINLAYSON, EDWIN H., M.S.A. (University of Florida)
Associate in Agricultural Economics, Food and Resource Economics (1973-1975).

FINLAY, MARTHA CLAUDETTE, M.S. (Vanderbilt University)
Associate Professor of Physical Therapy (1969-1974).

FINN, HARVEY D.,
Systems Coordinator (1967-1976).

FISCHLER, IRA SAMUEL, Ph.D. (Stanford University)
Associate Professor (1973-1978).

FISCHLSCHWEIGER, WERNER, Ph.D. (University of Graz)
Professor of Basic Dental Sciences, College of Dentistry (1969-1973).

FISHE, PATRICIA G., M.B.A. (University of Florida)
Assistant in Research, Bureau of Economic and Business Research (1979-1979).

FISHER, FRANCES W., M Ed. (University of Florida)
Associate Professor of Medical Technology (1973-1978).

FISHER, MARTIN J., Ph.D. (West Virginia University)
Assistant Professor of Physiology (1972-1974).

FISHER, NORMA PAIGE, M.A.E. (University of Florida)
Associate Professor of Physical Therapy and Neurology (1964-1972).

FISHER, RICHARD F., Ph.D. (Cornell University)
Associate Professor, (Silviculture), IFAS (1977-1979).

FISHER, WALDO R., M.D. (University of Pennsylvania)
Professor of Medicine and Biochemistry (1965-1978).

FISKELL, JOHN GARTH AUSTIN, Ph.D. (McGill University)
Professor of Soil Science (Soil Biochemistry), IFAS (1951-1961).

FISHKIND, HENRY H., Ph.D. (Indiana University)
Assistant Professor of Economics, Acting Director Bureau of Economic and Business Research (1975-1979)

FITZGERALD, CONSTANCE K., M.D. (Washington University)
Associate Professor of Ophthalmology (1971-1975).

FITZGERALD, LAWRENCE T., Ph.D. (University of Florida)
Associate Professor of Radiology (1974-1979).

FITZGERALD, PAUL W., Ed.D. (Florida State University)
Professor of Education (1975-1975).

FITZPATRICK, GEORGE, Ph.D (Rutgers University)
Assistant Professor (Assistant Ornamental Horticulturist) IFAS, Agricultural Research Center, Ft. Lauderdale (1967-1979).

FITZSIMMONS, JEFFREY R., Ph.D., (University of Florida)
Instructor of Radiology (1979-1979).

FLANEGAN, JAMES B., Ph.D. (University of Michigan)
Assistant Professor of Immunology and Medical Microbiology (1978-1978).

FLANNERY, MERLE ELIZABETH, Ed D. (Pennsylvania State University)
Associate Professor of Education (1966-1978).

FLESHER, CAROL K., Ph.D. (University of Florida)
University Counseling Psychologist, University Counseling Center (1965-1965).

FLINCHUM, D. MITCHELL, Ph.D. (North Carolina State University)
Assistant Professor (1979-1979).

FLOWERS, JOHN WILSON, Ph.D. (University of Virginia)
Professor of Physics (1947-1953).

FLUCK, RICHARD CONRAD, Ph.D (North Carolina State University)
Professor (Agricultural Engineer), IFAS, (1965-1977).

FOGLER, H. RUSSELL, Ph.D. (Columbia University)
Professor of Management (1971-1979).

FOLEY, JEREMY, M.Ed. (Ohio University)
Director of Tickets and Game Operations, (1977-1979).

FOLKERTS, LORRAINE NERO, B.S.P.
Assistant in Pharmacy (1974-1975).

FOLTZ, JOHN L., Ph.D. (University of Michigan)
Assistant Professor, (Assistant Entomologist), IFAS (1977-1977).

FOODYM, DARALYN J., Ph.D. (Univ. of California-Berkeley)
Assistant Professor of Community Health and Family Medicine (1978-1978).

FORBES, RICHARD B., Ph.D. (Pennsylvania State University)
Associate Professor (Associate Professor (Associate Soils Chemist), IFAS, Agricultural Research and Educational Center, Sanford (1948-1967).

FORD, HARRY W., Ph.D. (Ohio State University)
Professor (Horticulturist) IFAS, AREC-Lake Alfred (1950-1962).

FOREMAN, RONALD C., JR., Ph.D (University of Illinois)
Associate Professor of English, Director of Afro-American Studies Program (1970-1970)

FORGNONE, CHARLES, Ed.D. (George Peabody College)
Professor of Education Special Education (1970-1979).

FORGNONE, MARGARET M., B.S.P.
Assistant in Pharmacy (1978-1978).

FORNOFF, GERALD A., (Valpraiso University)
Director of Admissions/Financial Arrangements, Shands Teaching Hospital, (1979-1979)

FORRESTER, DONALD JASON, Ph D (University of California)
Professor (Associate Parasitologist), Department of Preventive Medicine, College of Veterinary Medicine-IFAS (1969-1979)

FOSSUM, JERRY GEORGE, Ph.D. (University of Arizona)
Associate Professor of Electrical Engineering (1978-1978).

FOSTER, MAELEE THOMSON, M.F.A. (Temple University)
Associate Professor of Architecture (1971-1976).

FOSTER, MALCOM T., JR., M.D. (Bowman Gray)
Associate Professor and Chairman of Medicine, JHEP (1977-1977)

FOUSE, SARAH BAIRD, M.M. (University of Kentucky)
Associate Professor of Music (1968-1974)

FOUST, CHARLES WILMOTT, B.S. (Cooper Union)
Assistant in Chemical Education (1970-1970).

FOWLER, KENNETH H., M.L.A. (Berkeley)
Assistant Professor of Landscape Architecture (1979-1979).

FOX, DALLAS R., M.S.A. (University of Florida)
Associate Director, Division of Planning and Analysis (1974-1974).

FOX, WILLIAM MCNAIR, Ph.D. (Ohio State University)
Professor of Industrial Relations and Management (1954-1963).

FOXWORTH, JUDITH J., M.S.L.S. (University of Kentucky)
Assistant in STAC, College of Engineering (1978-1979).

FRANCIS, RICHARD L., Ph.D. (Northwestern University)
Professor of Industrial and Systems Engineering (1971-1971)

FRANCIS, VIRGINIA GLADYS, M.A.
Associate Librarian, Reference and Bibliography (1964-1971)

FRANCO, ADRIENNE, M.L.S. (Queens College)
Assistant Librarian, Catalog Department (1976-1976).

FRANKLIN, HERBERT, Ed.D. (Indiana University)
Assistant Professor of Education (1974-1974).

FRANZ, LAWRENCE R., JR., M.S.T. (University of Montana)
Associate in Natural Sciences, Florida State Museum (1972-1972).

FRAUMAN, SALLY A., M.S.N. (University of Florida)
Assistant Professor, College of Nursing (1974-1977)

FRAZER, WILLIAM JOHNSON, JR., Ph.D. (Columbia University)
*Professor of Economics (1957-1968).**

FRAZER, WINIFRED LOESCH, Ph.D. (University of Florida)
Professor of English (1955-1972).

FRAZIER, CHARLES EDWIN, Ph.D. (Southern Illinois University)
Associate Professor of Sociology (1972-1977).

FREELAND, JAMES JACKSON, J.D. (University of Florida)
*Professor of Law (1957-1963).**

FREEMAN, ELEANOR F.L., R.N.
Associate in Surgery (1966-1966).

FREEMAN, GEORGE ROLAND, M.S.A. (University of Florida)
Assistant Professor (Assistant Agricultural Engineer) and Director, Facilities Operations, IFAS (1950-1977).

FREEMAN, THOMAS EDWARD, Ph.D. (Louisiana State University)
Professor (Plant Pathologist) and Acting Chairperson, IFAS, (1956-1979).

FREEMAN, WATSON LOUIS, M.S.E. (University of Florida)
Associate Professor of Mechanical Engineering; Assistant Dean of the College of Engineering (1953-1977).

FREGLY, MARILYN S., Ph.D. (University of Florida)
Assistant Professor of Journalism and Communications (1973-1973).

FREGLY, MELVIN J., Ph.D. (University of Rochester)
Professor of Physiology (1956-1965).

FRENCH, CHARLES E., Ph.D. (Texas A&M University),
Assistant Research Scientist, International Programs, IFAS Bolivia (1978-1978).

FRENCH, WILLIAM JOHN, Ph.D. (New York State University)
Associate Professor (Associate Plant Pathologist), IFAS, Agricultural Research Center, Monticello (1968-1974).

FRETWELL, JOHN B., J.D. (University of Florida)
Major, U.S. Marine Corps, Assistant Professor of Naval Science (1978-1978).

FREUND, GERHARD, M.D. (J. W. Goethe University, Germany)
Professor of Medicine and Neuroscience (1964-1975).

FRIAS, JAIME L., M.D. (University of Chile)
Professor of Pediatrics and Director of Birth Defects Center (1970-1977).

FRIED, MELVIN, Ph.D. (Yale University)
Professor of Biochemistry and Molecular Biology, and Assistant Dean for Graduate Education in Medical Sciences (1956-1972).

FRIEDRICH, EDUARD G., Jr., M.D., (Johns Hopkins University)
Professor and Chairperson of Obstetrics and Gynecology (1979-1979).

FRITZ, GEORGE J., Ph.D. (Purdue University)
Associate Professor (Associate Plant Physiologist), IFAS (1960-1964).

FROMING, WILLIAM J., Ph.D. (University of Texas, Austin)
Assistant Professor of Psychology (1977-1977).

FRY, JACK LEROY, Ph.D. (Purdue University)
Professor (Poultry Science), Assistant Dean for Resident Instruction, IFAS (1964-1975).

FULLINGTON, ROBERT S., B.S.B.A. (University of Florida)
Director, Records and Registration (1973-1977)

FUNK, ARTHUR LAYTON, Ph.D. (University of Chicago)
Professor of History (1946-1962).

FUQUAY, STEPHEN FREDERIC, M.A., M.S.
Associate Librarian, Catalog (1972-1977)

FURMAN, THOMAS DESAUSSURE, M.S.E. (University of Florida)
Professor of Environmental Engineering Sciences and Affiliate Professor of Civil Engineering (1951-1964).

GABIANELLI, VINCENT JAMES, M.Ed. (University of Miami)
*Curator and Chairman of Department of Interpretation, Florida State Museum (1968-1971) **

GADSDEN, THOMAS, Ed.D. (University of Florida)
University School Associate Professor, P. K. Yonge Laboratory School (1967-1977).

GAITANIS, LOUIS ANDREW, J.D. (University of Florida)
Associate Professor of Real Estate and Urban Analysis (1946-1951).

GAITHER, ROBERT BARKER, Ph.D. (University of Illinois)
Professor of Mechanical Engineering and Chairperson of Department (1962-1966).

GALE, MARC A., D.M.D. (Tufts University)
Associate Professor of Operative Dentistry, College of Dentistry (1972-1978)

GALE, STEVEN H., Ph.D. (University of Southern California)
Associate Professor of English (1974-1974).

GALLAHER, RAYMOND N., Ph.D. (University of Georgia)
Associate Professor of Agronomy, IFAS (1976-1976)

GAMBLE, DOVIE JANE, M.A. (University of New York)
Assistant Professor of Recreation (1977-1977).

GANNON, MICHAEL VALENTINE, Ph.D. (University of Florida)
Professor of Religion and History and Assistant Dean, College of Arts and Sciences (1967-1976).

GANO, OVID RAYMOND, B.E.E. (University of Florida)
Assistant Professor of Radiology (1970-1970).

GARBETT, WILLIAM S., M.S. (University of Florida)
Assistant in Forest Soils, (1977-1977).

GARCIA-BENGOCHEA, FRANCISCO, M.D. (University of Havana and Tulane University)
Distinguished Service Professor of Surgery (1962-1976).

GARCIA, RUBEN V., Ph.D. (University of Texas)
Assistant Professor of Portuguese and Spanish (1977-1977).

GARG, LAL C., Ph.D. (University of Florida)
Associate Professor of Pharmacology and Therapeutics (1970-1976).

GARIN, EDUARDO H., M.D. (University of Chile)
Assistant Professor of Pediatrics and Assistant Director of Comprehensive Children's Kidney Treatment Center (1974-1975).

GARNICA, ADOLFO D., M.D. (University of California)
Associate Professor of Pediatrics and Chief of the Gastroenterology Unit (1974-1978).

GARRARD, LEON A., Ph.D. (University of Florida)
Associate Professor, (Associate Crop Physiologist), IFAS (1963-1978).

GARRETT, EDWARD ROBERT, Ph.D. (Michigan State University)
Graduate Research Professor of Pharmacy (1961-1961).

GARRETT, RICHARD EDWARD, Ph.D. (University of Virginia)
Professor of Physics and Physical Sciences and Associate Chairperson of Physics (1963-1974).

GARRIGUES, ROBERT G., Ph.D. (Florida State University)
Associate Professor of Health and Hospital Administration and Assistant Vice President for Management and Budget Office of Vice President for Health Affairs (1971-1977).

GARRINGTON, GEORGE E., D.D.S. (University of Maryland),
Assistant Dean for Admissions and Student Financial Aid and Professor of Oral Medicine, College of Dentistry (1973-1976).

GARRISON, ROBERT D., M.D. (University of North Carolina)
Assistant Professor of Pediatrics (JHEP) (1973-1973)

GARVIN, JEWEL H., A.B., B.S. in L.S. (Emory University)
Librarian, J. Hillis Miller Health Center Library (1960-1964)

GASCHE, ROBERT THURSTON, M.Ed. (University of Miami)
Instructor, P. K. Yonge Laboratory School (1968-1972).

GASCHO, GARY JOHN, Ph.D. (Michigan State University)
Professor (Plant Nutritionist), IFAS, and Acting Center Director Agricultural Research and Education Center, Belle Glade (1968-1979).

GASKIN, JACK MICHAEL, D.V.M., Ph.D. (Cornell University)
Assistant Professor (Assistant Virologist), Department of Preventive Medicine, College of Veterinary Medicine-IFAS (1973-1973).

GASKINS, LESLIE E., Ph.D. (University of Florida)
Visiting Assistant Professor of Community Dentistry, College of Dentistry (1978-1979).

GASKINS, MURRAY HENDRICKS, Ph.D. (University of Florida)
Professor (Plant Physiologist), IFAS, USDA (1973).

GATER, ROGER ALLEN, Ph.D. (Purdue University)
*Associate Professor of Mechanical Engineering (1968-1973).**

GAY-CROSIER, RAYMOND, Docteur es Lettres (Berne University)
Professor of French (1967-1973)

GEFTER, JEFFREY W., M.D., (University of Florida)
Assistant Professor of Radiation Therapy (1979-1979).

GEGAUFF, ANTHONY G., D.M.D. (University of Florida)
Assistant Professor of Occlusion and Fixed Prosthodontics, College of Dentistry (1977-1979).

GEISER, EDWARD A., M.D. (University of Cincinnati)
Instructor of Medicine (1979-1979)

GELATT, KIRK N., V.M.D. (University of Pennsylvania)
Professor and Chairman, Department of Special Clinical Sciences, College of Veterinary Medicine (1976-1976).

GELLINEK, CHRISTIAN J., Ph.D. (Yale University)
*Professor of German (1971-1971).**

GELMAN, STANLEY R., M.D. (University of Florida)
Assistant Professor of Obstetrics and Gynecology (1975-1975).

GENUNG, WILLIAM GORDON, M.S. (University of Florida)
Professor (Entomologist), IFAS Agricultural Research and Education Center, Belle Glade (1949-1970).

GEORGE, PAUL S., Ed. D. (George Peabody College for Teachers)
Associate Professor of Education (1971-1976).

GERALDSON, CARROLL MORTON, Ph.D. (University of Wisconsin)
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GERBER, JOHN FRANCIS, Ph.D. (University of Missouri)
Professor (Climatologist), and Director, IFAS Grants Program (1960-1973).

GERENCSER, GEORGE A., Ph.D. (Indiana University)
Associate Professor of Physiology (1975-1979).

GERHARDT, KENNETH JAY, Ph.D. (Ohio State University)
Assistant Professor of Speech (1978-1978).

GESSNER, IRA H., M.D. (University of Vermont)
Professor of Pediatrics and Chief of Pediatric Cardiology (1960-1970).

GETZEN, SAMUEL PACE
Manager, Campus Shop and Bookstore (1949-1960).

GFELLER, EDUARD, M.D. (University of Bern, Switzerland)
Professor and Chief of Psychiatry Service, VAH (1978-1978).

GHOLZ, HENRY L., Ph.D. (Oregon State University)
Assistant Professor (1979-1979).

GIANNINI, RICHARD, B.S. (University of Florida)
Associate Athletic Director, Marketing and Promotions (1978-1978).

GIBBS, CHARLES H., Ph.D. (Case Western Reserve University)
Associate Professor of Basic Dental Sciences, College of Dentistry (1974-1979).

GIBBS, CHARLES P., M.D. (Indiana University)
Associate Professor of Anesthesiology and Obstetrics and Gynecology and Coordinator of Clinical Teaching in OB Anesthesia (1972-1976).

GIBBS, E. PAUL J., B.V.S.C., Ph.D. (Bristol University)
Associate Professor (Virologist), Department of Preventative Medicine, College of Veterinary Medicine, IFAS (1979-1979).

GIBSON, DAVID WYLIE, M.S.C.E. (University of Miami)
Associate Professor of Civil Engineering (1974-1974).

GIESEL, JAMES T., Ph.D. (University of Oregon)
Associate Professor of Zoology (1970-1975).

GIFFORD, GEORGE EDWIN, Ph.D. (University of Minnesota)
Professor of Immunology and Medical Microbiology, College of Medicine and Professor of Microbiology and Cell Science, IFAS (1957-1968).

GILBERT, CARTER ROWELL, Ph.D. (University of Michigan)
Associate Curator of Ichthyology, Florida State Museum, Joint Associate Professor of Zoology and Latin American Studies (1961-1972).

GILBERT, EDWARD ETIMAR, B.A. (West. St. College of Colorado)
Assistant in Administration, IFAS (1973-1973).

GILBERT, RICHARD L., M.S. (Our Lady of the Lake, San Antonio, Tx.)
Captain, U.S. Air Force, Assistant Professor of Aerospace Studies (1978-1978).

GILES, GEOFFREY J., (Cambridge University)
Assistant Professor of History (1978-1978).

GILKISON, BETTY GAY, Ed.D. (University of Oregon)
Assistant Professor of Recreation (1974-1974).

GILL, ALICE A., M.S. (Boston University)
Associate Professor of Occupational Therapy (1972-1977).

GILMAN, S.B., M.S. (Florida State University)
Assistant Librarian (1979-1979).

GLEIM, IRVIN N., Ph.D. (U. of Illinois), C.P.A. (Illinois)
*Associate Professor of Accounting (1971-1975).**

GLICKSBERG, MANDELL, LL.M. (New York University)
Professor of Law (1953-1959).

GODBEY, KAROLYN L., M.S.N. (University of Florida)
Assistant Professor, College of Nursing (1975-1977).

GODDARD, FREDERICK OWEN, Ph.D. (Duke University)
Associate Professor of Economics (1966-1972).

GODDARD, RAY EVERETT, Ph.D. (Texas A & M University)
Professor of Forest Genetics, IFAS (1959-1976).

GOLDBERG, EUGENE P., Ph.D.(Brown University)
Professor of Materials Science and Engineering (1975-1975).

GOLDHURST, WILLIAM, Ph.D. (Tulane University)
*Professor of English (1964-1976).**

GOLDMAN, JACQUELIN ROBERTA, Ph.D. (University of Illinois)
Professor of Clinical Psychology (1961-1976).

GONDECK, ALLAN R., Ph.D. (University of Florida)
Assistant Engineer in Coastal and Oceanographic Engineering (1974-1974).

GOODALE, THOMAS G., Ph.D. (Iowa State University)
Dean for Student Services and Associate Professor of Education (1973-1973).

GOODWIN, JOSEPH B., Ph.D. (University of Maryland, College Park)
Associate Research Scientist, International Programs, IFAS, Bolivia (1979-1979).

GORBERT, DANIEL WAYNE, Ph.D. (University of Oklahoma)
Associate Professor (Associate Agronomist), IFAS, Agricultural Research Center, Marianna (1970-1975).

GORDON, ANDREW M., Ph.D. (Univ. of California at Berkeley)
Assistant Professor of English (1975-1975).

GORDON, JOHN R., Ph.D. (University of Wisconsin)
Associate Professor (Rural Development), Food and Resource Economics, IFAS (1977-1977).

GORDON, MICHAEL WALLACE, J.D. (University of Connecticut)
Professor of Law (1968-1971).

GORDON, RICHARD E., M.D., Ph.D. (University of Michigan)
Associate Professor of Psychiatry and Clinical Psychology (1967-1967).

GORDON, RONALD J., Ph.D. (Princeton University)
Professor of Chemical Engineering, Medicine and Surgery (1969-1979).

GORDY, C. BRUCE, D.M.D. (Medical College of Georgia)
Assistant Professor Operative Dentistry, College of Dentistry (1978-1979).

GORMAN, BENJAMIN L., Ph.D. (Tulane University)
Professor and Chairperson of Sociology Department (1968-1973).

GOSLINGA, CORNELIS CH., Ph.D. (Carolus Magnus)
Professor of Humanities and History (1967-1967).

GOTTESMAN, STEPHEN T., Ph.D. (University of Manchester)
Associate Professor of Astronomy (1971-1976).

GOULD, ROBERT WILLIAM, Ph.D. (University of Florida)
Professor of Materials Science and Engineering (1964-1974).

GOULD, WILLIAM R., Ph.D. (University of Florida)
Associate Professor and Chairman of Physical Therapy (1978-1978).

GOWAN, SAMUEL CHARLES, M.A.
Assistant Director of Libraries (1973-1973).

GRAETZ, DONALD A., Ph.D. (University of Wisconsin)
Associate Professor of Soil Science (Soil Environment), IFAS (1971-1976).

GRAHAM, ELIZABETH PEELER, M.M. (Florida State University)
Assistant Professor of Music (1979-1979).

GRAHAM, MARY ELIZABETH, M.A.E. (Arizona State University)
Assistant Professor of Professional Physical Education (1964-1966).

GRAMS, RALPH R., M.D. (University of Minnesota)
Professor of Pathology (1973-1977).

GRATER, HARRY ALLEN, Ph.D. (Penn State University)
Professor of Psychology (1965-1965).

GRAUMLICH, THOMAS R., Ph.D. (Ohio State University)
Assistant Professor, (Assistant Microbiologist), IFAS, AREC, Lake Alfred (1977-1978)

GRAVENSTEIN, JOACHIM S., M.D., (Harvard University)
Graduate Research Professor of Anesthesiology (1979-1979).

GRAVES, SHIRLEY A., M.D. (University of Miami)
Associate Professor of Anesthesiology and Pediatrics and Chief, Division of Pediatric Anesthesiology (1970-1975).

GRAY, SUSAN D., B.S.A. (University of Florida)
Assistant in Vegetable Crops, IFAS (1975-1975).

GREEN, ALEX EDWARD SAMUEL, Ph.D. (University of Cincinnati)
Graduate Research Professor of Physics, Nuclear Engineering, Engineering Sciences and Electrical Engineering (1963-1963)

GREEN, JAMES RUSSELL, JR., M.D. (University of Virginia)
Professor of Community Health and Family Medicine and Medicine (1959-1979).

GREEN, RICHARD HAMILTON, Ph.D. (University of California at Berkeley)
Professor of English (1971-1971).

GREEN, RICHARD LOUIS, Ph.D (University of Illinois)
Associate Professor of Theatre (1967-1972)

GREEN, VICTOR EUGENE, JR., Ph.D (Purdue University)
Professor (Agronomist), IFAS (1951-1965).

GREENE, BARRY R., Ph.D. (Yale University)
Director and Associate Professor of Health and Hospital Administration and Allied Health Program (1979-1979).

GREENE, DIANE B., MSN (University of Texas)
Assistant Professor, College of Nursing (1979-1979).

GREENWALT, THOMAS CHARLES, Ed.D. (Louisiana St. University)
Associate Professor (Extension 4-H Youth Specialist), IFAS (1962-1966).

GREENWOOD, GORDON E., Ed.D (University of Indiana)
Professor of Education (1967-1976).

GREER, MELVIN, M.D. (New York University)
Professor and Chairperson, Department of Neurology (1961-1974).

GREGG, JAMES HENDERSON, Ph.D. (Princeton University)
Professor, Microbiolgoy and Cell Science, IFAS (1951-1963).

GREGORY, FREDERICK, Ph.D. (Harvard University)
Assistant Professor of History and Physical Science (1978-1978).

GREGORY, JESSE FORREST, III, Ph.D. (Michigan State Univ.)
Assistant Professor (Assistant Food Chemist), IFAS (1977-1977).

GREGORY, JOHN W., Ph.D. (Ohio State University)
Associate Professor of Education (1972-1977).

GREINER, ELLIS C., Ph.D. (University of Nebraska)
Assistant Professor (Wildlife Parasitology) Department of Preventive Medicine, College of Veterinary Medicine, IFAS (1979-1979).

GRIERSON, WILLIAM, Ph.D. (Cornell University)
*Professor (Horticulturist) IFAS, AREC-Lake Alfred (1952-1965).**

GRIFFIN, DANA G., III, Ph.D. (University of Tennessee)
Professor of Botany, Arts and Sciences (1967-1979).

GRIFFIN, GEORGE MELVIN, JR., Ph.D. (Rice University)
Professor of Geology (1970-1970).

GRIFFIN, NANCY CLAIRE, M.S. (University of Tennessee)
University School Assistant Professor, P. K. Yonge Laboratory School (1967-1978).

GRIFFIS, CAROLYN STALLINGS, Ph.D. (University of Florida)
Assistant Professor of Social Sciences, Director of Cooperative Education (1965-1969).

GRIFFITH, ANTHONY C., M.A. (Tennessee Tech)
Associate Athletic Trainer (1973-1973).

GRIFFITH, JOHN L., Ed.D. (Oklahoma State University)
Professor of Journalism and Communications (1969-1975).

GRIFFIN, RICHARD D., B.A. (St. Cloud State University)
Director of Planned Giving (1979-1979).

GRIGGS, HARRY H., Ph.D. (University of Iowa)
Professor of Journalism and Communications (1958-1970).

GRIGGS, RICHARD A., Ph.D. (Indiana University)
Associate Professor of Psychology (1974-1979).

GRIGSBY, JOHN R., Ed.D. (Columbia University)
Professor of Music (1967-1978).

GRIM, CHARLES JR., M.S.B.C. (University of Florida)
Assistant Professor of Building Construction (1967-1970).

GRIMM, JAMES C., M.Ed. (Bowling Green State University)
Director of Housing (1977-1977).

GRISSOM, EUGENE EDWARD, M.F.A. (State University of Iowa)*
Professor of Art (1953-1966)

GRONWALL, RONALD R., D.V.M., Ph.D. (Univ of Cal at Davis)
Professor, Department of Medical Sciences and Director, Office of Veterinary Medical Education, College of Veterinary Medicine (1975-1978).

GROOMS, ANN M., M.D. (University of Tennessee)
University Physician (1979-1979).

GROOMS, CAROLE H., M.L.S. (Florida State University)
Associate Law Librarian (1974-1979).

GROOMS, DONALD A., M.A.
Associate Professor of Journalism and Communications (1962-1970)

GROW, THOMAS E., Ph D (University of Florida)
Assistant Professor of Basic Dental Sciences, College of Dentistry (1977-1977).

GUERTIN, WILSON H.,Ph.D. (Michigan State University)
*Professor of Education (1960-1968).**

GUINAGH, BARRY JOSEPH, Ph.D. (Michigan State University)
Associate Professor of Education (1968-1974).

GULL, DWAIN D., PH.D. (Cornell University)
Associate Professor (Horticulturist), IFAS (1958-1973).

GUM, GLENWOOD G., M.S. (University of Minnesota)
Assistant in Comparative Ophthalmology, Dept. of Special Clinical Sciences, College of Veterinary Medicine (1978-1978).

GUNBY, WILLIAM R. JR., M.B.A. (Stetson University)
Associate Professor of Building Construction (1973-1973).

GUNTER, DANNY L., Ph.D. (University of Tennessee)
Assistant Professor (Extension Production Economist), Food and Resource Economics, IFAS (1975-1975).

GURIN, SAMUEL, Ph.D. (Columbia University)
Professor of Biochemistry (1969-1973).

GUTTINGER, HELLEN IRELAND, Ed.D.(University of Florida)
University School Associate Professor, P. K. Younge Laboratory School (1968-1977).

GUZMAN, VICTOR L., Ph.D. (Cornell University)
Professor (Horticulturist), IFAS, Agricultural Research and Educational Center, Belle Glade (1958-1966).

GWIN, ROBERT M., D.V.M. (Oklahoma State) M.S. (University of Minnesota)
Assistant Professor, Department of Special Clinical Sciences, College of Veterinary Medicine (1979-1979).

HAASE, RONALD WAYNE, B. Arch. (University of Minnesota)
Associate Professor of Architecture (1977-1977).

HABECK, DALE HERBERT, Ph.D. (North Carolina State Univ.)
Professor (Entomologist), IFAS (1963-1967).

HACKETT, RAYMOND L., M.D. (University of Vermont)
Professor of Pathology, College of Medicine (1962-1978).

HACKLER, RUTH NADINE, M.S. (Oklahoma State University)
Associate Professor (Extension Clothing Specialist), IFAS, (1969-1969).

HADLEY, RUFUS TILMON, B.S.B.A. (Univ. of North Carolina)
Director, Administrative Computing Services (1954-1969).

HAHN, WILLIAM, M.A. (Michigan State University)
Director of Family Housing and Conferences, Housing (1967-1977).

HALE, JAMES ALLEN, Ph.D. (University of Wisconsin)
Associate Professor (1975-1976).

HALE, JAMES PIERCE, M.S. (University of Illinois)
Professor of Music (1957-1970).

HALE, MARK PENDLETON, JR., Ph.D. (University of Illinois)
Associate Professor of Mathematics (1970-1976).

HALL, C.B., Ph.D. (Cornell University)
Professor, (Horticulturist), IFAS (1950-1979)

HALL, DONALD W., Ph.D. (University of Florida)
Associate Professor, (Associate Entomologist), IFAS (1975-1978).

HALL, EVERETT E., JR., Ph.D. (University of Florida)
Clinical Psychologist (1962-1970).

HALL, LINDA THORNTON, M.S.T. (Georgia Southern)
Associate Professor of Recreation (1969-1978).

HALL, MATTHEW B., D.D.S. (Univ. of Cal. at Los Angeles)
Assistant Professor of Oral and Maxillofacial Surgery (1978-1978).

HALLER, WILLIAM THURSTON, Ph.D. (University of Florida)
Associate Professor, (Associate Agronomist), IFAS, (1974-1978).

HALLIWELL, RICHARD E., V.M.B., Ph.D. (Univ. of Cambridge)
Associate Professor and Department Chairman, Department of Medical Sciences, College of Veterinary Medicine (1977-1977).

HALLMAN, CLEMENS L., Ph.D. (Indiana University)
Associate Professor of Education (1973-1973).

HALLMARK, CHARLES THOMAS, Ph.D. (Ohio State University)
Assistant Professor of Soil Science (Soil Genesis and Classification), IFAS (1977-1979).

HALPERIN, DON A., Ph.D. (Virginia Polytechnic Institute)
Professor of Building Construction and Director of the School of Building Construction (1953-1973).

HALSEY, LAWRENCE HENRY, M.S.A. (University of Florida)
Associate Professor (Horticulturist), IFAS (1948-1968).

HAMACHER, HOWARD BROCKMAN, M. Arch. (University of Kansas)
Professor of Architecture (1956-1976).

HAMLEN, RONALD ALAN, Ph.D. (Pennsylvania State University)
Associate Professor, (Associate Entomologist), IFAS, Agricultural Research Center, Apopka (1973-1978).

HAMMER, LOWELL CLARK, Ph.D. (University of Florida)
Acting Dean, College of Health Related Professions; Professor of Communicative Disorders and Speech (1960-1979).

HAMMER, MARIE E., M.H.E. (University of Arizona)
Associate Professor, Extension Home Economist (1969-1975).

HAMMER, RICHARD HARTMAN, Ph.D. (University of Arizona)
Professor of Medicinal Chemistry and Assistant Dean for Student Affairs, College of Pharmacy (1963-1979).

HAMMOND, FRANKIE A., M.A.
Assistant Professor of Journalism and Communications (1976-1978).

HAMMOND, LUTHER CARLISLE, Ph.D. (Iowa State University)
Professor of Soil Science (Soil Physics) IFAS (1950-1964).

HAMMOND, ROBERT M., Ph.D. (University of Florida)
Visiting Assistant Professor of Spanish and Linguistics (1978-1978).

HANCOCK, DONALD E., M.B.A. (University of Kentucky)
Assistant Hospital Director, Ancillary Services-Shands Teaching Hospital (1976-1978).

HANKS, ROBERT WILLIAM, Ph.D. (University of Chicago)
Associate Professor (Assistant Plant Physiologist), IFAS, Agricultural Research and Educational Center, Lake Alfred (1955-1974).

HANNAH, LARKIN CURTIS, Ph.D. (University of Wisconsin)
Associate Professor (Horticulturist), IFAS (1974-1979).

HANNUM, JOHN BALLARD, M.Ed. (University of Florida)
Instructor, P. K. Yonge Laboratory School (1958-1962).

HANRAHAN, ROBERT JOSEPH, Ph.D. (University of Wisconsin)
Professor of Chemistry (1958-1971)

HANSEN, ART, Ph.D. (Cornell University)
Assistant Professor of Behavioral Studies and Anthropology (1975-1975).

HANSEN, KIM A., M.B.A. (University of Florida)
Systems Coordinator, Shands Teaching Hospital (1973-1979).

HANSEN, RICHARD I., M.D. , (Albert Einstein University)
Assistant Professor of Ophthalmology (1979-1979).

HARBAUGH, BRENT KALEN, Ph.D. (Kansas State University)
Assistant Professor (Assistant Horticulturist), IFAS, Agricultural Research and Education Center, Bradenton (1975-1975).

HARDER, JAYNE CRANE, Ph.D. (University of Florida)
*Professor of Linguistics and Director of the English Language Institute (1954-1974).**

HARDMAN-DE-BAUTISTA, M.J., Ph.D. (Stanford University)
Professor of Anthropology and Linguistics (1968-1972).

HARDY, JOHN WILLIAM, Ph.D. (University of Kansas)
Curator of Ornithology , Florida State Museum, and Joint Professor of Zoology and Latin American Studies (1973-1973).

HARGROVE, DON DARRELL, Ph.D. (University of Florida)
Associate Professor, (Associate Animal Scientist), IFAS (1973-1978).

HARING, ELLEN S. , Ph.D. (Radcliffe College)
Professor of Philosophy and Chairperson of Department (1972-1972).

HARLAN, WILLIAM EDWARD, M.A.E.
Associate Professor of Physical Education (1949-1979).

HARMAN, ELOISE M., M.D. (John Hopkins University)
Assistant Professor of Medicine (1976-1976).

HARMS, ROBERT HENRY, Ph.D. (Texas A&M University)
Professor (Poultry Nutritionist) and Chairperson, Poultry Science Department, IFAS (1957-1963).

HARPER, JULIA M., M.Ed. (Florida A&M)
Instructor, P. K. Yonge Laboratory School (1966-1970).

HARRELL, JOANNE, M.N. (University of Florida)
Assistant Professor, College of Nursing (1978-1978).

HARRER, GUSTAVE ADOLPHUS, Ph.D. (University of North ????)
Director of Libraries (1968-1968).

HARRIS, BARNEY, Jr., Ph.D. (Oklahoma State University)
Professor (Extension Dairyman), IFAS (1963-1974).

HARRIS, FAYE G., Ed.D. (University of Florida)
Associate Professor, College of Nursing (1975-1975).

HARRIS, JAMES O., M.D. (University of Mississippi)
Associate Professor of Medicine and Chairman, Medical Selection Committee (1973-1979).

HARRIS, LAWRENCE DEAN, Ph.D. (Michigan State University)
Associate Professor (Wildlife Ecologist), IFAS (1972-1979).

HARRIS, MICHAEL R., M.B.A., C.P.A. (Univ. of Florida)
Assistant to the Vice President for Administrative Affairs (1971-1978).

HARRIS, TOM V., M.B.A. (University of Florida)
Assistant to the College Dean (1971-1974).

HARRISON, DALTON SIDNEY, M.S.A. (University of Florida)
Professor (Agricultural Engineer), IFAS (1953-1968).

HARRISON, MARY NALL, M.S. (Texas A&M University)
Associate Professor (Extension Consumer Education Specialist), IFAS, (1963-1967).

HARRISON, WILLARD L., M.S. (University of Florida)
Director of Pharmacy Services, Shands Teaching Hospital and Clinics (1976-1976).

HART, JACQUELYN D., E.D.S. (University of Florida)
Affirmative Action Coordinator (1974-1978).

HARTIGAN, BARRY , M.A. in L.S.
Assistant Librarian, Engineering and Physical Sciences (1973-1973).

HARTIGAN, KARELISA V., Ph.D. (University of Chicago)
Associate Professor of Classics (1973-1976).

HARTLEY, CRAIG SHERIDAN, Ph.D. (Ohio State University)
*Professor of Materials Science and Engineering (1966-1975).**

HARTSELL, MARILYN, M.S.N. (University of Arizona)
Assistant Professor, College of Nursing (1978-1978).

HARTY, RICHARD F., M.D. (Georgetown University)
Assistant Professor of Medicine (1977-1977).

HARVEY, JOHN W., D.V.M. (Kansas State University), Ph.D. (University of California at Davis)
Associate Professor of Clinical Pathology, Department of Metabolism, College of Veterinary Medicine (1974-1979).

HASKINS, JAMES S., M.A. (University of New Mexico)
Associate Professor of English (1977-1977).

HASS, CHARLES GLEN, Ed.D. (Columbia University)
Professor of Education and Chairman, Instructional Leadership and Support (1958-1958).

HASS, JANE, Ph.D. (University of South Carolina)
Assistant Professor of Management (1975-1975).

HATCH, ROBERT A., Ph.D. (University of Wisconsin)
Assistant Professor of Humanities and History (1978-1978).

HAUSWIRTH, WILLIAM W., Ph.D. (John Hopkins University)
Assistant Professor of Immunology and Medical Microbiology (1976-1976).

HAWKINS, IRVIN F., M.D. (University of Maryland)
Professor of Radiology and Chief of Visceral Angiography (1973-1976).

HAWKINS, ROBERT A., M.A. (University of Florida)
Instructor, P. K. Yonge Laboratory School (1969-1978).

HAYES, CAROL VIRGINIA, M.Ed. (University of Florida)
*Associate Professor, College of Nursing (1957-1977).**

HAYNES, RICHARD PIERCE, Ph.D. (University of Illinois)
Associate Professor of Philosophy (1967-1967).

HAYS, CLIFFORD OLIVER, Ph.D. (University of Texas)
Associate Professor of Civil Engineering (1971-1976).

HEAD, HENRY HERBERT, Ph.D. (University of Maryland)
Associate Professor (Animal Physiologist), IFAS (1963-1971).

HEADLEY, ELWOOD J., M.C. (Vanderbilt University)
Assistant Professor of Medicine and Associate Chief of Staff for Ambulatory Care, VAH (1976-1978).

HEANEY, JAMES PATRICK, Ph.D. (Northwestern University)
Professor of Environmental Engineering Sciences and Director, Water Resources Research Center (1968-1978).

HEARN, DONALD W., Ph.D. (Johns Hopkins University)
Associate Professor of Industrial and Systems Engineering (1971-1976).

HEARON, PAMELA KINSMAN, M.A.
(Assistant Librarian) Assistant Professor, IFAS, Agricultural Research and Educational Center, Lake Alfred, (1966-1967).

HEATON, MARIETA B., Ph.D. (North Carolina State University)
Associate Professor of Neuroscience (1975-1979).

HEDGECOCK, CRAIG ROBERT, M.S. (University of Cincinnati)
Instructor (1977-1979).

HEDGES, WILLIAM DEPEW, Ed.D. (George Peabody College for Teachers)
Professor of Education (1971-1971).

HEGGESTAD, ARNOLD A., Ph.D. (Michigan State University)
Chairman, Department of Finance, Insurance, and Real Estate & Professor of Finance and Economics (1975-1978).

HEILMAN, KENNETH M., M.D. (University of Virginia)
Professor of Neurology, Director of Neurology Research Program, and Associate Professor of Psychology (1970-1975)

HEINS, PAUL J., D.D.S., M.S.D. (University of Washington)
Associate Professor and Chairman of Periodontics, College of Dentistry (1975-1975).

HELLING, JOHN FREDERICK, Ph.D. (Ohio State University)
Professor of Chemistry (1962-1978).

HELLSTROM, WARD, Ph.D. (University of Illinois)
Professor of English (1961-1976).

HEMP, GENE WILLARD, Ph.D. (University of Minnesota)
Associate Vice President for Academic Affairs and Professor of Engineering Sciences (1967-1976).

HENCH, LARRY LEROY, Ph.D. (Ohio State University)
Professor of Materials Science and Engineering (1964-1972).

HENDERSON, CHARLES ALFRED, Ed.D. (University of Florida)
Associate Professor of Education (1964-1974).

HENDERSON, LINDA L., Ed.S. (University of Florida)
Instructor, P. K. Yonge (1974-1978).

HENDERSON, RUBY MARIE, A.D.L.S. (Florida State University)
Associate Professor of Music (1963-1974).

HENLEY, RICHARD WILLIAM, Ph.D. (Ohio State University)
Associate Professor (Ornamental Horticulturist) Ornamental Horticulture Department Agriculture Research Center-Apopka (1973-1973)

HENNY, RICHARD JAY, Ph.D. (University of Minnesota)
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HENRETTA, JOHN C., Ph.D. (Harvard University)
Assistant Professor of Sociology (1976-1976).

HENRY, GEORGE SELDEN, Ph.D. (Yale University)
Assistant Professor of History (1961-1967).

HENRY, JAMES A., M.S.
Interim Assistant Professor of Physical Sciences & Geography (1977-1977).

HENSEL, DALE ROBERT, Ph.D. (Rutgers University)
Professor (Soils Chemist) and Center Director, IFAS, Agricultural Research Center, Hastings, (1960-1970).

HENSEL, JAMES W., Ph.D. (Iowa State University)
Professor of Education (1969-1969).

HENTGES, JAMES FRANKLIN, JR., Ph.D. (University of Wisconsin)
Professor (Animal Nutritionist) IFAS (1952-1966).

HERBERT, JOHN HENRY, M.S.A.
Associate Professor of Soil Science (Extension Conservation), IFAS (1954-1968).

HERZOG, DONALD CHARLES, Ph.D. (Louisiana State University)
Assistant Professor, (Assistant Entomologist), IFAS, Agricultural Research and Education Center, Quincy (1977-1977).

HESTER, JOHN DONALD, M.P.H. (University of Florida)
Associate Professor of Recreation (1957-1976).

HETRICK, LAWRENCE ANDREW III, M.A. (University of Florida)
Assistant Professor of English (1966-1968).

HETRICK, VIRGINIA R., Ph.D. (University of Washington)
Assistant Professor of Geography (1973-1973).

HEWITT, TIMOTHY D., M.S. (University of Tennessee)
Assistant Professor, Food & Resource Economics, IFAS, AREC, Marianna (1977-1977).

HICKS, DORA ADELINE, Ed.D. (University of Texas)
Professor and Acting Chairperson of Health Education and Safety (1948-1979).

HIEBERT, ERNEST, Ph.D. (Purdue University)
Associate Professor (Associate Plant Pathologist), IFAS, (1969-1974).

HIERS, RICHARD HYDE, Ph.D. (Yale University)
Professor of Religion (1961-1972).

HILL, CLEMENT J., D.M.D. (University of Louisville)
Professor of Pediatric Dentistry (1975-1979).

HILL, HUGH M., M.D. (Johns Hopkins University)
Professor of Obstetrics and Gynecology and Associate Dean for Student Admissions (1959-1973).

HILL, JERALDINE A., M.Ed. (University of Florida)
University School Assistant Professor, P. K. Yonge Laboratory School (1959-1978).

HILL, RICHARD K., M.D. (Johns Hopkins University)
Assistant Professor of Medicine (1978-1978).

HILL, SAMUEL SMYTHE, JR., Ph.D. (Duke University)
Professor of Religion (1972-1972).

HILLIARD, MARY ELIZABETH, Ph.D. (University of Florida)
Professor, College of Nursing (1973-1976).

HILL-LUBIN, MILDRED B., Ph.D. (University of Illinois)
Acting Associate Professor of English, and Acting Assistant Dean of Graduate School (1974-1979).

HIMES, JAMES ALBERT, V.M.D. (University of Pennsylvania), Ph.D. (Cornell University)
Professor (Pharmacologist), and Assistant Dean for Students, College of Veterinary Medicine, Department of Medical Science (1965-1977).

HINKLEY, HENRY R.
Coordinator, Health Center Projects, Facilities Planning and Operations, J. Hillis Miller Health Center (1976-1976).

HINSON, KUELL, Ph.D. (University of Wisconsin)
Professor of Agronomy (Geneticist, USDA), IFAS (1955-1971).

HIPPLE, THEODORE W., Ph.D. (University of Illinois)
Professor of Education (1968-1973)

HOADLEY, F. BRENT, Ph.D. (Kansas State University)
Assistant Professor (Extension Water Specialist), IFAS (1979-1979).

HODGES, ELVER MYRON, Ph.D. (Rutgers University)
*Professor (Agronomist), IFAS, Agricultural Research Center, ONA (1941-1949).**

HODGES, JAMES R., Ph.D. (University of North Carolina)
Professor of English (1950-1971).

HODGES, JULIUS BARNEY, Ed.D. (New York University)
Professor of Education and Director, P. K. Yonge Laboratory School (1962-1962).

HODGES, PAUL C., Ph.D. (University of Wisconsin)
Visiting Professor of Radiology (1964-1974).

HODGSON, LYNN MORRISON, Ph.D. (Stanford University)
Assistant Research Scientist in Botany (Assistant Algologist), IFAS (1979-1979).

HODGSON, THOM J., Ph.D. (University of Michigan)
Professor of Industrial and Systems Engineering (1970-1978).

HOF, JOHN G., Ph.D. (Colorado State University)
Assistant Professor (1979-1979).

HOFFMAN, GLENN JOHN, Ph.D. (University of Michigan)
Associate Professor of History (1957-1963).

HOFFMANN, EDWARD M., Ph.D. (University of Miami)
Professor, Microbiology and Cell Science, IFAS, Professor, Immunology and Medical Microbiology, College of Medicine (1968-1972).

HOFLUND, GAR B., Ph.D. (University of California, Berkeley)
Assistant Professor of Chemical Engineering (1977-1977).

HOGEN ESCH, THIEO ELTIO, Ph.D. (Leiden)
Professor of Chemistry (1970-1979).

HOISINGTON, WILLIAM C., D.D.S. (University of Washington)
Instructor of Periodontics, College of Dentistry (1978-1978).

HOLDEN, EDMUND STANLEY, Ph.D. (Northwestern University)
Associate Professor of English (1957-1966).

HOLLAND, DONALD R., M.S.
Associate Professor of Journalism and Communications (1970-1977).

HOLLAND, HAROLD FERRELL, M.S.C.E. (University of Florida)
Associate Professor of Building Construction (1968-1973).

HOLLIEN, HARRY, Ph.D. (University of Iowa)
Professor of Speech and Linguistics (1962-1979).

HOLLINGER, THOMAS G., Ph.D. (Purdue University)
Assistant Professor of Basic Dental Sciences, College of Dentistry, and Assistant Professor of Anatomy, College of Medicine (1976-1976).

HOLLIS, CHARLES A. III, Ph.D. (SUNY)
Associate Professor (Associate Forest Physiologist), IFAS (1972-1977).

HOLLOMAN, WILLIAM W., Ph.D. (University of California)
Assistant Professor of Immunology and Medical Microbiolgoy (1977-1977).

HOLLOWAY, PAUL H., Ph.D. (Rensselaer Polytechnic Institute)
Associate Professor of Materials Science and Engineering (1978-1978).

HOLLY, MARILYN G., Ph.D. (University of Rochester)
Associate Professor of Philosophy (1966-1977).

HOLMES, THELMA MARY, M.P.H. (University of North Carolina)
Associate Professor of Physical Therapy (1965-1969).

HOLT, JOHN, Ph.D. (Texas A&M University)
Professor, Food and Resource Economics Department, IFAS, (1962-1979).

HOLYOAK, OWEN J., Ph.D. (University of Iowa)
Professor and Chairman, Department of Professional Physical Education (1966-1977).

HOMAN, SIDNEY RAMSDEN, Ph.D. (Harvard University)
Associate Professor of English (1972-1972).

HOMER, CARL G., Ph.D. (Cornell)
Assistant Professor of Health and Hospital Administration (1979-1979).

HOOD, C. IAN, M.B., Ch.B. (Liverpool University)
Professor of Pathology and Chief of Laboratory Service VAH (1956-1973).

HOOKS, E. JAMES, Ph.D. (University of Missouri)
Associate Professor and Chairperson of Theatre (1973-1977).

HOOKS, R. CLEGG, M.A.M.R.D. (University of Florida)
Assistant in Agricultural Economics, Food & Resource Economics, IFAS (1976-1976).

HOOPER, CHARLES FREDERICK, JR., Ph.D. (Johns Hopkins Univ.)
Professor of Physics and Acting Chairman (1963-1979)

HOOPER, LEONARD J., Ph.D. (Southern Illinois University)
Professor of Journalism and Communications (1964-1977).

HOOVER, JOHN WESLEY, M.S.A.E. (Georgia Inst. of Technology)
Professor of Engineering Sciences (1951-1967).

HOPKINS, DONALD LEE, Ph.D. (University of Kentucky)
Professor (Plant Pathologist), IFAS Agricultural Research Center, Leesburg (1969-1979).

HORNER, EARL STEWART, Ph.D. (Cornell University)
Professor of Agronomy, IFAS (1950-1964).

HORNSBY, JANICE MARIE, M.Ed. (University of Houston)
Assistant Professor of Medical Technology (1975-1978).

HOROWITZ, ANN R., Ph.D. (Indiana University)
Associate Professor of Economics (1972-1972).

HOROWITZ, IRA, Ph.D. (Massachusetts Institute of Technology)
Professor Management and Graduate Research Professor Department of Management (1972-1979).

HORST, MICHAEL, Ph.D. (Florida State University)
Visiting Assistant Professor of Biochemistry and Molecular Biology (1978-1978).

HORTENSTINE, CHARLES C., Ph.D. (University of Florida)
*Professor of Soil Science (Soil Chemistry), IFAS (1959-1975).**

HORTON, GLYNN MICHAEL JOHN, Ph.D., (University of England),
Associate Professor (Associate Animal Nutritionist), Agricultural Research Center, ONA, (1979-1979).

HOUGH, JOSEPH P., B.S.B.A. (Florida State University)
University Controller (1962-1970).

HOUSE, MICHAEL LAMAR, M.Ed. (University of Florida)
Assistant in Pharmacy (1975-1977).

HOWARD, CHARLES MARION, Ph.D. (Cornell University)
Associate Professor (Associate Plant Pathologist), IFAS, Agricultural Research Center, Dover (1967-1973).

HOWARD, FORREST WILLIAM, Ph.D. (Louisiana State University)
Assistant Professor (Assistant Entomologist), IFAS Agricultural Research Center, Ft. Lauderdale (1976-1976).

HOWARD, RICHARD J., M.D., (Yale University)
Associate Professor of Surgery (1979-1979).

HOWARD, WILLIAM M., Ph.D. (University of Wisconsin)
Professor of Insurance and Finance (1955-1957).

HOWE, ROBERT, M.L.S. (University of Texas)
Assistant Librarian, Latin American Department (1978-1978).

HOWELL, GARY L., M.E. (University of Florida)
Associate in Engineering in Coastal and Oceanographic Engineering (1976-1979).

HOWER, ALFRED, Ph.D., (Harvard University)
Professor of Portuguese and Spanish (1962-1962).

HREN, JOHN JOSEPH, Ph.D. (Stanford University)
Professor of Materials Science and Engineering (1964-1972).

HSEIH, CHUNG KUO, Ph.D. (Purdue University)
Professor of Mechanical Engineering (1969-1979).

HSU, CHEN-CHI, Ph.D. (University of Michigan)
Associate Professor of Engineering Sciences (1978-1978).

HUBBELL, DAVID HEUSTON, Ph.D. (North Carolina State University)
Professor (Soil Microbiology) IFAS (1969-1979)

HUBER, JOSEPH RICHARD, M.Ed. (George Washington University)
Instructor, P.K. Yonge Laboratory School (1958-1962).

HUBER, WAYNE CHARLES, Ph.D. (MIT)
Professor Environmental Engineering Sciences (1968-1979).

HUDSON, JERE H., M.S.I.A.* (George Washington University)
Assistant Dean and Lecturer, College of Law (1972-1972).

HUDSON, TERRY M., M.D. (Duke University)
Assistant Professor of Orthopaedic Radiology (1976-1976).

HUFFMAN, JACOB BRAINARD, D.F. (Duke University)
Associate Professor (Wood Technologist), IFAS (1952-1957).

HUGHES, KENNETH BURDETTE, S.J.D. (Harvard University)
Professor of Law (1968-1968).

HUGHES, THOMAS W., B.A. (Pennsylvania State University)
Director, Veterinary Medical Teaching Hospital, College of Veterinary Medicine (1973-1976).

HUMMEL, ROLF ERICH, Dr. Rer. Nat. (Stuttgart, Germany)
Professor of Materials Science and Engineering (1964-1974).

HUMPHREY, STEPHEN R., Ph.D. (Oklahoma State University)
Associate Curator of Mammology, Florida State Museum, and Joint Associate Professor of Zoology and Latin American Studies (1971-1976).

HUMPHREYS, THOMAS ELDER, Ph.D. (University of Pennsylvania)
Professor of Botany (Biochemist), IFAS (1955-1968).

HUNT, E.L. ROY, LL.M. (YALE)
Professor of Law and Associate Dean (1962-1971).

HUNT, JAMES M., M.B.A., (University of Dayton)
Assistant Professor of Marketing (1979-1979).

HUNTER, CARL W., M.B.A. (University of Georgia)
Systems Coordinator (1979-1979)

HUNTER, JAMES HARDIN, Jr., Ph.D. (University of California, Los Angeles)
Professor of Astronomy (1979-1979).

HURST, THOMAS ROBERT, J.D. (Harvard University)
*Associate Professor of Law (1974-1977).**

HUSEMAN, HOWARD WILLIAM, M.S. in L.S.
Associate Librarian, Executive Assistant to Director, (1962-1972.)

HYATT, DORIS, Y., B.S.
Associate Librarian, Reference and Bibliography (1967-1977).

HYDE, GERALD E., B.S. (University of Tennessee)
Systems Coordinator (1974-1975).

HYMAN, RANDY E., M.Ed. (University of Vermont)
Assistant Director of Housing for Residence Life, Housing (1979-1979).

IBARRA, FERNANDO, Ph.D. (UCLA)
Associate Professor of Spanish (1967-1972)

IHAS, GARY G., Ph.D. (University of Michigan)
Assistant Professor of Physics (1976-1976).

INDELICATO, PETER A., M.D. (New York Medical College)
Assistant Professor of Orthopaedic Surgery and Chief of Sports Medicine (1977-1977).

INGBER, STANLEY, N., J.D. (Yale University)
Professor of Law (1972-1978.

INGLEY, HERBERT ARTHUR, III., Ph.D. (University of Florida)
Assistant Professor of Mechanical Engineering (1973-1975).

INGMAN, HAL MAURY, M.S.M.A. (Georgia Tech)
Assistant Professor of Mechnical Engineering (1961-1961).

INGRAM, LONNIE O'NEAL, Ph.D. (University of Texas)
Associate Professor, Microbiology and Cell Science, IFAS, Associate Professor, Immunology and Medical Microbiology, College of Medicine, (1972-1976).

IRAVANI, ABDOLLAH, M.D. (Tehran University Medical School)
Instructor of Pediatrics (1977-1977).

IREY, RICHARD KENNETH, Ph.D. (Purdue University)
Professor of Mechanical Engineering (1964-1969).

IRVING, JO ANNALEE, M.S. N. (University of Maryland)
Assistant Professor, College of Nursing (1970-1971).

ISAACSON, MARCIA JEAN, M.F.A. (University of Georgia)
Assistant Professor of Art (1973-1975).

ISENBERG, SHELDON R., Ph.D. (Harvard University)
Associate Professor of Religion (1973-1976).

IVES, JOHN E., M.H.A. (Yale University)
Executive Director, Shands Teaching Hospital & Clinics (1977-1977).

JABERG, RUSSELL LOWELL, S.T.D. (Temple University)
Associate Professor of Religion (1968-1973).

JACKSON, LARRY KEITH, Ph.D. (University of Florida)
Associate Professor (Associate Extension Horticulturist), IFAS (1962-1977).

JACKSON, LELAND F., Ph.D. (University of California, Davis)
Assistant Professor, (Assistant Plant Pathologist), IFAS (1977-1977).

JACKSON, RICHARD A., M.Ed. (University of Florida)
Teacher, P. K. Yonge Laboratory School (1972-1972).

JACKSON, RONALD FREDERICK, D.V.M. (Michigan State Univ.)
Clinical Professor of Veterinary Medicine (1971-1974).

JACKSON, WILLIAM FRANKLIN, D.V.M., M.S. (Michigan State University)
Clinical Professor of Veterinary Medicine (1971-1974).

JACOBS, ARTHUR J., Ed.D. (Columbia University)
*Associate Professor of Journalism and Communications (1964-1973).**

JACOBSON, ELLIOTT R., D.V.M., Ph.D. (University of Missouri)
Assistant Professor, Division of Lab Animal/Wildlife Medicine, Department of Special Clinical Sciences, College of Veterinary Medicine, (1979-1979).

JAEGER, INA CLAIRE, M.M. (Eastman School of Music)
Associate Professor of Music (1968-1974).

JAEGER, MARC J., M.D. (University of Berne, Switzerland)
Professor of Basic Dental Sciences, College of Dentistry, & Professor of Physiology, College of Medicine (1970-1975).

JAMES, JOHN H., D.B.A. (University of Indiana)
Associate Professor of Management (1961-1964).

JAMES, SUE H., M.Ed. (University of Florida)
Assistant Director of Housing for Residence Life, Housing (1968-1978).

JANICKI, LAWRENCE JOHN, M.S. (University of Florida)
Assistant Research Scientists and Chief of Party, International Programs, IFAS, Bolivia, (1971-1978).

JANKY, DOUGLAS MICHAEL, Ph.D. (University of Nebraska)
Associate Professor (Associate Poultry Products Technologist), IFAS, (1974-1979).

JAROSZEWICZ, MARK T., F.A.I.A. M.Arch. (Swiss Fed Inst Tech)
Dean and Professor of Architecture (1976-1976).

JENKINS, DOLORES CHRISTINA, M.S.
Assistant Librarian, Reference and Bibliography (1973-1976).

JENSEN, ANTHONY SVEND, M.S F. (University of Florida)
Associate Professor (Extension Forester), IFAS (1953-1977).

JENSEN, PAUL J., Ph.D. (University of Iowa)
Professor, Department of Speech (1963-1975).

JERMIER, BETTY D., MSN (Ohio State University)
Instructor, College of Nursing (1979-1979).

JERMIER, JOHN M., Ph.D. (The Ohio State University)
Assistant Professor of Management (1979-1979).

JERNIGAN, JAMES A., M.D. (Washington University, St. Louis)
Assistant Professor of Community Health and Family Medicine and Medicine (1974-1976).

JESTER, ROBERT E., Ph.D. (University of Utah)
Associate Professor of Education (1966-1969).

JEZESKI, JAMES J., Ph.D., (University of Minnesota)
Associate Professor (Associate Extension Dairy Technologist) (1978-1978).

JILEK, ANTHONY FRANCIS, Ph.D. (University of Florida)
Assistant Professor (Extension Area Beef Specialist) Arec Quincy, IFAS, (1973-1975).

JOHNS, LEWIS E., Jr., Ph.D. (Carnegie Institute of Technology)
Associate Professor of Chemical Engineering (1967-1972).

JOHNSON, CHARLES ROBERT, Ph.D. (Oregon State University)
Associate Professor (Associate Ornamental Horticulturist), IFAS (1973-1976).

JOHNSON, F. CLIFFORD, Ph.D. (University of Texas)
Professor of Zoology (1967-1973).

JOHNSON, FRED A., Ph.D. (University of Florida)
Associate Professor (Extension Entomologist), IFAS (1973-1979).

JOHNSON, GORDAN S., B.A., A.I.A.
University Physical Planning Consultant, Facilities Planning and Operations, J. Hillis Miller Health Center (1968-1973).

JOHNSON, IRMGARD, Ph.D. (University of Denver)
Professor of Humanities (1955-1967).

JOHNSON, JAMES HARMON, Ph.D. (Northern Illinois University)
Associate Professor of Clinical Psychology (1979-1979).

JOHNSON, JAMES TROY, Ph.D. (Virginia Polytechnic Institute)
Associate Professor (Associate Agronomist) and Center Director, Agricultural Research Center, Live Oak, IFAS, (1970-1975).

JOHNSON, LEROY R., M.A. (The Sorbonne)
Provisional Assistant Professor of Social Sciences and History (1977-1977).

JOHNSON, RAYMOND CLARENCE, M.S.E. (University of Florida)
Professor of Electrical Engineering and Director of Electronic Communications Laboratory (1946-1968).

JOHNSON, SIMON OTIS, Ed.D. (Indiana University)
Associate Professor of Education (1971-1976).

JOHNSON, STEVEN B., Ph.D. (University of Wisconsin)
Assistant Professor of Accounting (1978-1979).

JOHNSON, SUZANNE B., Ph.D. (SUNY - Stony Brook)
Assistant Professor of Clinical Psychology (1975-1976).

JOHNSTON, DAVID WARE, Ph.D. (University of California)
Professor of Zoology (1963-1974).

JOHNSTON, JAMES M., Ph.D. (University of Florida)
Associate Professor of Psychology (1975-1975).

JOHNSTON, OTTO W., Ph.D. (Princeton University)
Chairperson and Associate Professor of German (1969-1979).

JOHNSTON, PATRICIA A., M.S. in L.S.
Associate Librarian, Documents (1974-1979).

JOINER, JAMES G., Ph.D. (University of Alabama)
Associate Professor of Rehabilitation Counseling (1972-1977).

JOINER, JASPER NEWTON, Ph.D. (Ohio State University)
Professor (Ornamental Horticulturist), IFAS (1950-1966).

JOLLEY, CLARE F., B.S.E. (University of Florida)
Systems Coordinator (1975-1976).

JONES, AUGUSTUS J., B.A. (Clark College)
Assistant Professor of Political Science (1979-1979).

JONES, BRENDA F., M.R.C.
Assistant in Broadcasting in Journalism and Communications (1977-1977).

JONES, DAVID WILSON, M.S.A. (University of Florida)
Professor of Agronomy, IFAS (1946-1971).

JONES, DOUGLAS STEVEN, Ph.D. (Princeton University)
Assistant Professor of Geology (1979-1979).

JONES, ERNEST MC CLAIN, J.S.D. (Yale University)
Professor of Law (1954-1957).

JONES, ESTHER J., M.Ln. (Emory University)
Associate Librarian, J. Hillis Miller Health Center Library (1970-1975).

JONES, JACK S., D.M.D. (University of Kentucky)
Assistant Professor of Community Dentistry, College of Dentistry (1975-1975).

JONES, JAMES WIGINGTON, Ph.D. (North Carolina State Univ.)
Associate Professor (Associate Agricultural Engineer), IFAS (1977-1977).

JONES, JESSE RAY, JR., M.A. in L.S.
Librarian, Reference and Bibliography (1961-1975).

JONES, JOHN PAUL, Ph.D. (Ohio State University)
Professor (Plant Pathologist), IFAS, Agricultural Research and Educational Center, Bradenton (1958-1970)

JONES, OTIS P., JR., B.S. (Florida State University)
Director, Auxiliary Services (1967-1967).

JONES, WILLIAM MAURICE, Ph.D. (Univ. of Southern California)
Professor of Chemistry (1956-1965).

JORDAN, VIRGINIA GOODELL, M.Ed. (University of Florida)
Assistant Professor of Medical Technology (1967-1967).

JUDD, WALTER STEPHEN, Ph.D. (Harvard University)
Assistant Professor of Botany, Arts and Sciences (1978-1979)

JUERGENSMEYER, JULIAN C., J.D. (Duke University)
Professor of Law (1972-1972).

JULIN, JOSEPH R., J.D. (Northwestern University)
Professor of Law and Dean, College of Law (1971-1971).

JUSTUSSON, J. WILLIAM, Dr. Eng. (Yale University)
Associate Dean, College of Engineering, Professor of Engineering Sciences and Materials Science Engineering (1979-1979).

KADZIELAWA, KRZYSZTOF, M.D., Ph.D. (Academy of Medicine, Warsaw)
Associate Professor of Pharmacology and Therapeutics (1976-1976).

KAGAN, KENNETH G, V.M.D. (University of Pennsylvania)
Assistant Professor, Department of Surgical Sciences, College of Veterinary Medicine (1979-1979)

KAHRS, ROBERT F., D.V.M., Ph.D. (Cornell University)
Professor and Chairman, Department of Preventive Medicine, College of Veterinary Medicine, IFAS (1977-1977).

KAISER, BARBARA M., M.Ed. (University of Florida)
Teacher, P. K. Yonge (1975-1975).

KAISER, WILLIAM FRANCIS, M.B.A. (University of Chicago)
Associate Engineer in Electrical Engineering (1969-1976).

KALAN, JAMES EDWARD, Ph.D. (Purdue University)
Associate Professor of Management (1979-1979).

KALCH, LESTER WILCOX, M.Ag.
Associate Professor (Associate Extension Poultryman), IFAS, (1951-1968).

KALLENBACH, ERNST A., Ph.D. (McGill University)
Associate Professor of Anatomy (1963-1976).

KALLMAN, ROBERT RICHARD, Ph.D. (Massachusetts Institute of Technology)
Professor of Mathematics (1972-1976).

KALMAN, RUDOLF E., D.Sc. (Columbia University)
Graduate Research Professor of Mathematics, Electrical Engineering, Industrial and Systems Engineering, and Engineering Sciences (1971-1971).

KALMBACHER, ROBERT S., Ph.D. (Pennsylvania State University)
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KALRA, PUSHPA S., Ph.D. (University of Delhi)
Assistant Professor of Obstetrics and Gynecology (1975-1976).

KALRA, SATYA PAUL, Ph.D. (University of Delhi, India)
Associate Professor of Obstetrics and Gynecology (1971-1976).

KANTER, LAWRENCE, M.D. (Case-Western Reserve)
Assistant Professor of Medicine, JHEP (1977-1977).

KANTOWSKI, ELEANORE L., Ed.D. (University of Georgia)
Associate Professor of Education (1974-1979).

KARLAN, MARC S., M.D. (University of Pennsylvania)
Associate Professor of Surgery (1975-1978.)

KARP, GERALD C., Ph.D. (University of Washington)
Associate Professor, Microbiology and Cell Science, IFAS (1971-1976).

KATOVICH, MICHAEL J., Ph.D. (University of California)
Assistant Professor of Pharmacy (1979-1979).

KAUDE, JURI VELLO, M.D. (University of Kiel)
Professor of Radiology (1971-1971).

KAUFMANN, DAVID ALLEN, Ph.D. (University of Iowa)
Associate Professor of Professional Physical Education (1970-1974).

KAUFMANN, JOHN HENRY, Ph.D. (University of California)
Professor of Zoology (1963-1974).

KEESLING, JAMES EDGAR, Ph.D. (University of Miami)
Professor of Mathematics (1967-1975).

KEETER, AUDREY, M.N. (University of Florida)
Associate Professor, College of Nursing (1967-1978).

KEIG, NORMAN GUTHRIE, Ph.D. (Ohio State University)
Associate Professor of Economics (1963-1966).

KEISTER, ELWOOD J., Ed.D. (Columbia University)
Professor of Music (1957-1963).

KEITT, ALAN S., M.D. (Harvard University)
Associate Professor of Pathology and Medicine, Head of Hematology Division (1968-1975).

KELLNER, KENNETH R., M.D., Ph.D. (SUNY-Downstate Med Center)
Instructor of Obstetrics and Gynecology (1977-1977).

KELLY, DANIEL LEO, Ed.D. (University of Florida)
Associate Professor of English (1965-1973)

KELLY, EARL McNEIL, Ph.D. (Florida State University)
Professor (Extension District Agent), IFAS, (1949-1969).

KELLY, THOMAS F. Jr., M.D. (Creighton University)
Assistant Professor of Surgery (1978-1978).

KELSO, WILLIAM A., Ph.D. (University of Wisconsin)
Associate Professor of Politcal Science (1973-1978.)

KELTING, ROBERT HERMAN, Ph.D. (University of Wisconsin)
Assistant Professor of Real Estate and Urban Analysis (1975-1975).

KEM, CAROL RITZEN, M.S. in L.S.
Associate Librarian Reference and Bibliography (1972-1977).

KEM, WILLIAM R., Ph.D. (University of Illinois)
Assistant Professor of Basic Dental Sciences, College of Dentistry, & Assistant Professor of Pharmacology and Therapeutics, College of Medicine, (1971-1971).

KEMKER, FRANCIS JOSEPH, Ph.D. (University of Denver)
Associate Professor of Communicative Disorders (1977-1977).

KEMP, HAROLD WARREN, M.S. (University of Illinois)
Associate Professor of Architecture (1966-1971).

KENDALL, KENNETH EVERETT, Ph.D. (University of Florida)
Associate Professor of English (1965-1970).

KENDALL, ROBERT L., Ph.D. (Indiana University)
Associate Professor of Journalism and Communications (1974-1979).

KENNY, LAWRENCE W., Ph.D. (University of Chicago)
Assistant Professor of Economics (1975-1975).

KENT, KURT E., Ph.D. (University of Minnesota)
Professor of Journalism and Communications (1970-1979).

KEPNER, JAMES L., Ph.D. (University of Iowa)
Assistant Professor of Statistics (1979-1979).

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KERRINS, R. D., JR., B.S. (University of Florida)
Captain, US Army, Assistant Professor of Military Science (1979-1979).

KEROACK, ROGER R., Ph.D. (University of Florida)
Clinical Psychologist (1977-1977).

KERSHNER, RICHARD B., Ph.D. (Stanford University)
Associate Professor of English (1971-1976).

KERSLAKE, KENNETH ALVIN, M.F.A. (University of Illinois)
Professor of Art (1956-1974).

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KHE, CHAU VAN, Ph.D. (University of California)
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KILPATRICK, KERRY E., Ph.D. (University of Michigan)
Professor of Industrial and Systems Engineering, Director, Health Systems Research, JHMHC (1970-1978).

KIMBALL, SOLON T., Ph.D. (Harvard University)
Graduate Research Professor of Anthropology (1966-1966).

KIMBROUGH, JAMES WILLIAM, Ph.D. (Cornell University)
Professor of Botany, Arts and Sciences (1964-1976).

KIMBROUGH, RALPH BRADLEY, Ed.D. (University of Tennessee)
Professor of Education (1958-1964).

KING, ANN HUFFMAN, M.S. (Florida State University)
Assistant Librarian, IFAS (1966-1969).

KING, ARTHUR D., Ph.D. (Florida State University)
Associate Professor of Dental Education, College of Dentistry (1970-1975).

KING, CHARLES E., M.D. (Bowman Gray)
Assistant Professor of Medicine, VAH (1977-1977).

KING, F. WAYNE, Ph.D. (University of Miami)
Director and Professor, Florida State Museum, (1979-1979).

KING, FRED E., M.S. (Indiana University)
Director for Housing Personnel, Housing (1951-1977).

KING, GREGORY J., D.M.SC. (Harvard University)
Assistant Professor of Orthodontics, College of Dentistry (1975-1975).

KING, HAROLD L., B.S. ADV. (University of Florida)
Assistant Bookstore Manager (1959-1973)

KING, ROBERT L., Ph.D. (John Hopkins University)
Associate Professor of Neuroscience (1974-1977).

KING, ROY W., Ph.D. (Cambridge University)
Associate in Chemistry (1969-1970).

KINLOCH, ROBERT ARMSTRONG, Ph.D. (University of California)
Associate Professor (Associate Nematologist), IFAS, Agricultural Research Center, Jay (1968-1974).

KINZER, JOHN M., M.A. (George Washington University)
Assistant to the Vice President for Student Affairs (1971-1971).

KINZER, SUZANNE M., Ed.D. (Rochester University)
Associate Professor of Education (1970-1975).

KINZEY, BERTRAM YORK, JR., M.S.A.E. (Virginia Polytechnic Institute)
Professor of Architecture (1959-1965).

KIRK, JAMES R., Ph.D. (Michigan State University)
Professor, (Food Scientist), and Chairperson of Department, IFAS, (1978-1978).

KIRKPATRICK, MARTIN SMITH, M.A. (University of Florida)
Professor of English (1956-1975).

KIRMSE, DALE WILLIAM, Ph.D. (Iowa State University)
*Associate Professor of Chemical Engineering (1964-1978).**

KITCHENS, CRAIG S., M.D. (University of Florida)
Assistant Professor of Medicine, VAH (1975-1976).

KITTS, JOHN STEWART, M.M. (Butler University)
Professor of Music (1965-1978).

KLEIN, PAUL A., Ph.D. (University of Florida)
Associate Professor of Pathology(1969-1974).

KLINE, WILLIAM E., Ed.D. (University of Denver)
University Counseling Psychologist (1965-1969).

KNAPP, JOSEPH L., Ph.D. (Kansas State University)
Associate Professor, IFAS (1977-1977).

KNAUFF, DANIEL G., M.D. (Northwestern University)
Assistant Professor of Surgery (1978-1978)

KNAUFT, DAVID A., Ph.D. (Cornell University)
Assistant Professor, (Assistant Agronomist), IFAS (1978-1978).

KNIGHT, JAMES W., Ed.D (University of Georgia)
Dean, Academic Affairs for Continuing Education (1973-1978).

KNISELEY, SHERMAN PHILIP, Ph.D. (U. North Carolina)
Professor of Humanities, (1964-1977).

KNOTT, LAWRENCE H., M.D., (Bowman Gray University)
Instructor of Surgery (1979-1979)

KNOWLES, LOIS NINA, Ph.D. (Laurence University)
Professor, College of Nursing (1956-1973).

KNOWLTON, CHARLES D., M. Engr. (University of Florida)
Captain, U.S. Army, Assistant Professor of Military Science (1977-1977).

KOBURGER, JOHN ALFRED, Ph.D. (North Carolina State Univ.)
Professor, (Microbiologist), IFAS (1969-1978).

KOEHLER, GARY JOSEPH, Ph.D. (Purdue University)
Professor of Management (1974-1979).

KOEHLER, PHILLIP G., Ph D (Cornell University)
Associate Professor (Extension Entomologist), IFAS (1975-1979).

KOEPKE, GARY E., B.S. (University of Cincinnati)
Director, Division of Planning and Analysis (1973-1979).

KOGER, MARVIN, Ph.D (University of Missouri)
Professor (Animal Geneticist), IFAS (1951-1951).

KOLARIK, J. MILAN, Ph.D. (University of Pittsburgh)
Director of University Counseling Center; Associate Professor of Psychology (1956-1974).

KOLB, ROBERT W., Ph.D. (University of North Carolina)
Assistant Professor of Finance (1978-1978).

KOLTS, BYRON E., M.D. (University of Rochester)
Associate Professor of Medicine (1972-1977)

KONOPA, JAMES E., B.S. (Florida International University)
Instructor of Community Health and Family Medicine and Associate Director, P.A. Program (1977-1978).

KOO, ROBERT CHUNG JEN, Ph.D. (University of Florida)
Professor (Horticulturist), IFAS, Agricultural Research and Educational Center, Lake Alfred (1953-1969).

KORAN, JOHN JOSEPH, JR., Ph.D. (Stanford University)
Professor of Education (1971-1974).

KORAN, MARY LOU, Ph.D. (Stanford University)
Professor of Education (1973-1976)

KOSCH, PHILIP C., D.V.M. (Ohio State University), Ph.D. (University of California at Davis)
Associate Professor, Department of Metabolism, College of Veterinary Medicine (1979-1979).

KOSCH, SHARON G., Ph.D. (University of Florida)
Assistant Professor of Behavioral Studies (1974-1978).

KOSTEWICZ, STEPHEN R., Ph.D. (Ohio State University)
Associate Professor, (Horticulturist), IFAS (1972-1978).

KOTEY, PAUL F. A., Ph.D. (University of Wisconsin)
Associate Professor of Humanities (1974-1976).

KOUSSIS, ANTONIS D., Ph.D. (Technische Huchschule Darmstadt)
Assistant Professor in Civil Engineering (1979-1979)

KOVALIK, GUSTAVE THOMAS, M.A. (University of Denver)
Associate Librarian, IFAS (1972-1977).

KRAFT, HELGA W., Ph.D. (University of California, Berkeley)
Associate Professor of German (1979-1979)

KRAMER, BARNETT S., M.D. (University of Maryland)
Assistant Professor of Medicine (1978-1978).

KRAMER, JOHN L., Ph.D. (University of Michigan)
Associate Professor of Accounting (1979-1979).

KRAMER, SANDRA L., Ph.D. (University of Texas)
Assistant Professor of Accounting (1979-1979).

KRAMER, SOL, Ph.D. (University of Illinois)
Professor of Ethology (1964-1975).

KRATINA, FREDRIC K., M.D. (Medical College of Georgia)
University Physician (1976-1978).

KRATINA, SANDRA, M.S.N. (University of Florida)
Assistant Professor, College of Nursing (1978-1979).

KRAUSCHE, CHARLES EMIL, M.S.C.E. (Georgia Inst. of Tech.)
Assistant Professor of Building Construction (1970-1971).

KREICHER, LAWRENCE LOUIS, Ph.D. (Harvard University)
Assistant Professor of Economics (1976-1976).

KREMGOLD, DAVID ALAN, M.F.A. (University of Iowa)
Assistant Professor of Art (1972-1977).

KRETSCHMER, ALBERT EMIL, JR., Ph.D. (Rutgers University)
Professor, (Agronomist), IFAS, ARC, Ft. Pierce (1952-1966).

KRISCHER, JEFFREY P., Ph.D. (Harvard University)
Associate Professor of Community Health and Family Medicine (1977-1977).

KROGH, SUZANNE F., Ph.D. (Oregon)
Assistant Professor of Education (1979-1979)

KROPP, JAMES R., B.A., B.S.
Assistant in Broadcasting in College of Journalism and Communications (1977-1977)

KRUMM, ROGER VINCENT, M.A.
Librarian in charge of Engineering & Physical Sciences Library (1951-1970)

KUCHAREK, THOMAS ALBERT, Ph.D. (University of Minnesota)
Associate Professor, (Associate Plant Pathologist), IFAS (1970-1978)

KULDAU, JOHN M., M.D. (Western Reserve University)
Associate Professor of Psychiatry (1975-1975).

KUMAR, PRADEEP, Ph.D. (University of California, San Diego)
Visiting Assistant Professor of Physics (1979-1979)

KURTZ, JAMES L., M.S. (University of California at Los Angeles)
Associate Engineer in Electrical Engineering (1979-1979).

KURZWEG, ULRICH HERMANN, Ph.D. (Princeton University)
Professor of Engineering Sciences (1968-1976)

KUSHNER, DAVID Z., Ph.D. (University of Michigan)
Professor of Music (1969-1969)

LABISKY, RONALD F., Ph.D. (University of Wisconsin)
Professor, (Wildlife Ecology), IFAS, (1976-1976).

LA GRECA, ANTHONY J., Ph.D. (Ohio State University)
Director, Urban and Regional Research Center, Associate Professor of Sociology (1973-1977)

LAIPIS, PHILIP J., Ph.D. (Stanford University School of Med)
Assistant Professor, Department of Biochemistry, College of Medicine, (1974-1974)

LAITINEN, HERBERT AUGUST, Ph.D. (University of Minnesota)
Graduate Research Professor of Chemistry and Environmental Engineering (1974-1979).

LAMBERT, LOUISE, M.S. (Northwestern State Univ. Louisiana)
Assistant Professor, College of Nursing (1978-1978).

LAMBERT, ROY E., Ph.D. (University of Illinois)
Associate Professor of Humanities (1959-1963)

LAMME, ARY JOHANNES, Ph.D. (Syracuse University)
Associate Professor of Geography and Social Sciences (1974-1978).

LAMME, LINDA LEONARD, Ph.D. (Syracuse University)
Associate Professor of Education (1974-1979).

LANCIANI, CARMINE A., Ph.D. (Cornell University)
Associate Professor of Zoology (1968-1973).

LANGBEIN, BERT, B.A. (Columbia University)
Systems Coordinator, Shands Teaching Hospital, (1979-1979)

LAND, MARTIN F., D.D.S. (St. Univ. of Utrecht, Netherlands)
Assistant Professor of Occlusion and Fixed Prosthodontics, College of Dentistry (1978-1978).

LANDSMAN, TED L., Ph.D. (Syracuse University)
Professor of Psychology and Counselor Education (1958-1958).

LANGFORD, ALLIE GERALD, Ed.D. (Columbia University)
*Associate Professor of English, Adviser (1953-1966).**

LANGFORD, R. G., M.M. (North Texas State)
Associate Professor of Music (1971-1977).

LANGHAM, MAX RAYMOND, Ph.D. (University of Illinois)
*Professor, Food and Resource Economics Department, IFAS (1962-1970).**

LANGWORTHY, MARGARET, M.S. (University of Vermont)
Associate in Natural Sciences, Florida State Museum (1979-1979).

LANZILLOTTI, ROBERT FRANKLIN, Ph.D. (California at Berkeley)
Professor of Economics and Dean of College of Business Administration and School of Accounting (1969-1969).

LARCHE, THELMA B., M.A. (Florida State University)
Associate Librarian, P. K. Yonge Laboratory School (1963-1978).

LARKIN, LYNN HAYDOCK, Ph.D. (University of Colorado)
Professor of Anatomy (1968-1979).

LARSEN, JANET J., Ed.D. (University of Florida)
Associate Professor of Education (1969-1974).

LARSEN, ROLF E., D.V.M., Ph.D. (University of Minnesota)
Assistant Professor, Department of Reproduction, College of Veterinary Medicine (1979-1979)

LARSON, JEAN A., Ph.D. (Dartmouth)
Associate Professor of Mathematics (1974-1978).

LASKIN, JEFFREY L., D.D.S. (Indiana University), M.S. (Ohio State University)
Assistant Professor of Oral and Maxillofacial Surgery, College of Dentistry (1976-1976).

LASLEY, MARION MURRAY, Ph.D. (Columbia University)
Associate Professor of Spanish (1956-1956).

LASSITER, WILLIAM B., M.D., (University of Florida)
Instructor of Community Health and Family Medicine (1979-1979).

LATOUR, MARINUS HENRY, M.S.E. (University of Florida)
Associate Professor of Electrical Engineering (1946-1950).

LAWLESS, ROBERT D., Ph.D. (New School of Social Research)
Associate Professor of Social Sciences and Anthropology (1976-1978).

LAWRENCE, FREDERIC S., M.A.T. (Jacksonville University)
Teacher, P. K. Yonge Laboratory School (1970-1972).

LAWRENCE, GORDAN D., Ph.D. (Claremont Graduate School)
Associate Professor of Education (1969-1969).

LAWRENCE, PAULINE, Ph.D. (University of Florida)
Assistant Professor of Zoology (1976-1976).

LEACOCK, ROBERT JAY, Ph.D. (University of Florida)
Associate Professor of Astronomy, Advisor (1971-1976).

LEADON, BERNARD MATHEW, Ph.D. (University of Minnesota)
Professor of Engineering Sciences (1964-1964).

LEAHY, THOMAS M., M.A. (University of Florida)
Assistant in Editorial, IFAS (1974-1974).

LEAVENWORTH, RICHARD S., Ph.D. (Stanford University)
Professor of Industrial & Systems Engineering (1966-1977).

LEAVEY, JOHN P., JR., Ph.D. (Emory University)
Assistant Professor of Humanities (1978-1978).

LEAVITT, NORMA MURIEL, Ed.D. (Columbia University)
Professor of Professional Physical Education (1953-1963).

LEBO, GEORGE ROBERT, Ph.D. (University of Florida)
Associate Professor of Astronomy (1964-1977).

LEBOWITZ, MARTIN S., D.D.S., M.S. (Indiana University)
Chairman and Assistant Professor of Oral and Maxillofacial Surgery (1975-1978).

LEE, CHING-SAN, Ph.D. (University of California)
Assistant Professor of Pharmacy (1977-1977).

LEE, HONG H., Ph.D. (Purdue University)
Assistant Professor of Chemical Engineering (1971-1976).

LEE, PERMILLAS ARTEN, Jr., M.A.
Associate Professor of Physical Education (1948-1979).

LEE, RICHARD F., Ph.D. (Kansas State)
Assistant Professor, (Assistant Plant Pathologist), IFAS, AREC, Lake Alfred (1978-1979).

LEGG, KEITH R., Ph.D. (University of California)
*Professor of Political Science (1966-1975).**

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Associate Professor of Agronomy, IFAS (1958-1972).

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Associate in Broadcasting in Journalism and Communications (1977-1979).

LEIBACH, JOHN R., M.D., (Ohio State University)
Assistant Professor of Medicine (1979-1979).

LEIBEE, GARY LEROY, Ph.D. (University of Kentucky)
Assistant Professor (Assistant Entomologist), IFAS, Agricultural Research and Education Center, Sanford (1979-1979).

LEIBMAN, KENNETH C., Ph.D. (New York University)
Professor of Pharmacology and Therapeutics (1956-1968).

LEILICH, ROY EDGAR, Re.D. (University of Indiana)
Professor of Recreation (1952-1967).

LEMARCHAND, RENE, Ph.D. (Univ. of California at L.A.)
*Professor of Political Science (1962-1971).**

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Associate Professor of Pharmacy, Assistant Dean, College of Pharmacy (1971-1971).

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LEONARD, CHRISTINA M., Ph.D. (Massachusetts Institute of Technology)
Associate Professor of Neuroscience (1976-1976).

LEONARD, LOUISE FOWLER, M.A. (University of Denver)
Assistant Librarian, Catalog Department (1978-1978).

LERCH, HAROLD ALEXANDER, Ph.D. (Ohio State University)
Professor of Professional Physical Education (1968-1978).

LESLIE, GERALD R., Ph.D. (Ohio State University)
Professor of Sociology (1967-1967).

LETCHER, JOHN SEYMOUR, JR., Ph.D. (Cal. Inst. of Technology)
Associate Professor of Engineering Sciences (1978-1978).

LEVIN, ALAN C., B.D.S. (University of Witwatersrand)
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LEVIN, SIDNEY, M.D. (Baylor University)
Professor of Pediatrics and Chairperson, Department of Pediatrics (JHEP).

LEVY, C. MICHAEL, Jr., Ph.D. (University of Wisconsin)
Professor of Psychology, (1964-1975).

LEWIS, A. L., Jr., Ph.D. (Duke University)
Professor of Humanities and Philosophy (1957-1966).

LEWIS, ARTHUR J., Ed.D. (Columbia University)
Professor of Education and Director, Division of Curriculum and Instruction, College of Education (1970-1970).

LEWIS, BARTLETT B., M.Stat. (University of Florida)
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LEWIS, DAVID E., Ed.D. (Duke University)
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LEWIS, JEFFREY, J.D. (Duke University)
Professor of Law (1972-1977).

LEZOTTE, DENNIS C., Ph.D. (State University of New York at Buffalo)
Assistant Research Scientist of Pathology (1975-1975).

LI, SHENG-SAN, Ph.D. (Rice University)
Professor of Electrical Engineering (1968-1978).

LEIB, SANDI, Ph.D. (University of Kentucky)
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LIEBERMAN, LESLIE SUE, Ph.D. (University of Connecticut)
Assistant Professor of Anthropology (1976-1977).

LIEBHAUSER, KATHRYN A., B.A. (University of Florida)
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LILES, ANNETTE LUCILLE, M.A., B.A. in L.S.
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LIND, STEPHEN ANDERSON, LL.M. (New York University)
*Professor of Law (1970-1974).**

LINDGREN, ERIK RUNE, Tekn.Dr. (Royal Inst. of Tech., Sweden)
*Professor of Engineering Sciences (1965-1965).**

LINDHOLM, FRED ARTHUR, Ph.D. (University of Arizona)
Professor of Electrical Engineering (1966-1966).

LINDQUIST, ROBERT CARL, Ph.D. (University of Utah)
Assistant Professor of Geography and Physical Sciences (1959-1965).

LINSCOTT, LESTER L., M.L.A. (Kansas State University)
Assistant Professor of Landscape Architecture (1979-1979).

LIPSEY, RICHARD L., Ph.D. (University of Illinois)
Associate Professor IFAS (1976-1976).

LISCA, PETER, Ph.D. (University of Wisconsin)
*Professor of English (1960-1970).**

LISLE, FORREST, JR., M.Arch. (Cornell University)
Associate Professor of Architecture (1970-1975).

LITTELL, RAMON C., Ph.D. (Oklahoma State)
Associate Professor (Associate Statistician), IFAS (1970-1975).

LITTLE, JOSEPH WALLACE, J.D. (University of Michigan)
Professor of Law (1967-1971)

LITTMAN, MAYER, M.S. (University of Southern Mississippi)
Colonel, US Air Force, Professor of Aerospace Studies (1979-1979).

LITZ, RICHARD EARLE, Ph.D. (University of Nottingham)
Assistant Professor (Assistant Research Scientist), IFAS Agricultural Research and Education Center, Homestead (1977-1977).

LLINAS, JOSE J., M.D. (Havana University)
Professor of Psychiatry (1974-1976).

LLORENS, Lela A., Ph.D. (Walden University)
Professor and Chairman of Occupational Therapy (1971-1976).

LLOYD, JAMES E., Ph.D. (Cornell University)
Professor of Entomology, IFAS, (1966-1974).

LOCASCIO, SALVADORE JOSEPH, Ph.D. (Purdue University)
Professor (Horticulturist), IFAS (1959-1969).

LOCKE, DAVID M., Ph.D. (University of Illinois)
Assistant Professor of English (1977-1977).

LOCKHART, MADELYN, Ph.D. (Ohio State University)
Acting Assistant Dean of the Graduate School and Professor of Economics (1960-1979).

LOEB, IRVING
Systems Coordinator (1969-1975).

LOESCH, LARRY CHARLES, Ph.D. (Kent State University)
Associate Professor of Education (1973-1978).

LOGGINS, PHILLIP EDWARDS, M.S. (Oklahoma State)
Professor (Animal Husbandman), IFAS, (1953-1974).

LOKKEN, LAWRENCE ALBERT, J.D. (University of Minnesota)
*Professor of Law (1974-1977).**

LOMBARD, CHRISTOPHE W., D.M.V. (University of Zurich)
Assistant Professor, Department of Medical Sciences, College of Veterinary Medicine (1978-1978).

LOMBARDINO, LINDA JEAN, Ph.D. (Ohio State University)
Assistant Professor of Speech (1978-1978).

LONG, GARY, Ph.D. (Texas A&M University)
Associate Professor of Civil Engineering (1977-1977).

LONG, ROBERT L., Ph.D. (University of Illinois)
Assistant Professor of Mathematics (1972-1972).

LONGLEY, SELDEN, III, M.D. (Vanderbilt University)
Assistant Professor of Medicine, VAH (1975-1975).

LONGSTRETH, CATHERINE ARCHIBAL, Ed.D. (University of Miami)
Asst. in Faculty Relations and Academic Administrator (1974-1978).

LONGSTRETH, JAMES W., Ph.D. (University of Florida)
Associate Professor of Education (1977-1977).

LONGUET-HIGGINS, MICHAEL S., Ph.D. (Cambridge University)
Professor of Engineering Sciences (1978-1978).

LOPEZ, LARRY M., Pharm.D. (University of Florida)
Assistant Professor of Pharmacy (1979-1979).

LOPEZ, TONI ANN, Ph.D. (Florida State University)
Assistant Professor of English (1978-1978)

LOSANO, WAYNE A., Ph.D. (Rensselaer Polytechnic Institute)
Associate Professor of English (1975-1979).

LOTZ, JOHN C., M.A. (East Texas State)
Head Basketball Coach (1973-1973).

LOTZ, PRESTON R., M.D., (Hahnemann University)
Assistant Professor of Radiology (1979-1979).

LOTZKAR, STANLEY, D.D.S. (New York University)
M.P.H. (University of Pittsburgh) Professor and Chairman of Community Dentistry, College of Dentistry (1971-1977).

LOUGHLIN, BARBARA A., MA.S. (University of Arizona)
University School Instructor, P. K. Yonge Laboratory School (1979-1979).

LOUGHLIN, GERALD M., M.D. (University of Rochester)
Assistant Professor of Pediatrics (1977-1977).

LOUIE, KENNETH A., D.M.D. (University of Florida)
Assistant Professor of Community Dentistry, College of Dentistry (1976-1976).

LOW, SAMUEL B., D.D.S., M.S. (University of Texas)
Assistant Professor of Periodontics, College of Dentistry (1975-1975).

LOWDIN, PER-OLOV, Ph.D. (UPPSALA)
Graduate Research Professor of Chemistry and Physics (1960-1960).

LOWENSTEIN, RALPH L., Ph.D. (University of Missouri)
Dean and Professor of Journalism and Communications (1976-1976).

LOYD, R. THOMAS, Ph.D. (University of Virginia)
Assistant Professor of German (1979-1979).

LOZIER, TIMOTHY ROBERT, M.L.S. (University of California)
Assistant Librarian, Catalog Department (1976-1976).

LU, SUNG YUN, Ph.D. (Carnegie Institute of Technology)
*Associate Professor of Engineering Sciences (1959-1963).**

LUCAS, WARNER J., D.D.S., M.S. (Univ. of North Carolina)
Assistant Professor of Oral and Maxillofacial Surgery, College of Dentistry (1978-1978).

LUCANSKY, TERRY W., Ph.D. (Duke University)
Associate Professor of Botany, Arts and Sciences (1971-1976).

LUEHER, CHARLES POLING, Ph.D. (University of California)
Associate Professor of Mathematics (1968-1975).

LUKE, HERBERT HODGES, Ph.D. (Louisiana State University)
Professor (Plant Pathologist, USDA) IFAS, (1955-1955).

LUNDEEN, HARRY C., D.D.S. (University of Minnesota)
Chairman and Professor of Occlusion & Fixed Prosthodontics, College of Dentistry (1971-1977).

LUNDGREN, DALE ALLEN, Ph.D. (University of Minnesota)
Professor of Environmental Engineering Sciences (1972-1976).

LUTRICK, MONROE CORNEALOUS, Ph.D. (Ohio State University)
Professor (Soil Chemist), IFAS Agricultural Research Center, Jay (1956-1977).

LUTTGE, WILLIAM G., Ph D. (University of California)
Associate Professor of Neuroscience and Acting Chairperson (1971-1978).

LYBAS, JOHN MICHAEL, Ph.D. (University of Illinois)
Assistant Professor of Civil Engineering (1977-1977).

LYLE, CHARLES, B.S. (University of Tampa)
Assistant Football Coach (1978-1978).

LYNCH, ANN, Ed.D. (University of Florida)
University Counseling Psychologist (1968-1968).

LYNCH, JOHN G., Ph.D. (University of Illinois)
Assistant Professor of Marketing (1979-1979).

LYNCH, MICHEL A., Ph.D. (University of Florida)
Associate Professor of Astronomy (1971-1977).

LYNNE, GARY DEAN, Ph.D. (Oregon State University)
Associate Professor (Assistant Agricultural Economist), Food and Resource Economics, IFAS (1974-1979).

LYONS, HENRY R., M.D. (Georgetown University)
Associate Professor of Psychiatry, and Associate Chief of Staff for Education (1967-1978).

LYRENE, PAUL MANGUS, Ph.D. (University of Wisconsin)
Associate Professor (Associate Plant Breeder), IFAS (1974-1977).

MACAULAY, NEILL WEBSTER, JR., Ph.D. (University of Texas)
Professor of History (1964-1975).

MACDONALD, WILLIAM DICKSON, S.J.D. (University of Michigan)
Professor of Law (1948-1951).

MACE, ARNETT C., JR., Ph.D. (University of Arizona)
Professor and Director, School of Forest Resources and Conservation, IFAS (1978-1978).

MAC FADDEN, BRUCE J., Ph.D. (Columbia)
Assistant Curator, Vertebrate Paleontology, Florida State Museum, and Joint Assistant Professor of Zoology (1977-1977).

MACKENZIE, RICHARD S., D D.S. (University of Michigan), *Ph.D. (University of Pittsburgh) Professor and Chairman of Dental Education, College of Dentistry (1969-1974).*

MACLAREN, NOEL K., M.B., Ch.B. (Univ Otago-New Zealand)
Professor of Pathology (1978-1978).

MACPHERSON, JOHN H., D.D.S. (Ohio State University)
Assistant Professor of Removable Prosthodontics, College of Dentistry (1978-1978).

MACQUIGG, DAVID RODGERS, Ph.D. (California Inst. of Tech.)
Assistant Professor of Electrical Engineering (1977-1977).

MADDALA, G. S., Ph.D (University of Chicago)
Graduate Research Professor of Economics (1975-1975).

MAGEE, CLARENCE H., B.A.
Coordinator of Educational Media, Learning Resources Center, J. Hillis Miller Health Center (1964-1974).

MAGGIOTTO, MICHAEL A., Ph.D. (Indiana University)
Assistant Professor, Political Science (1976-1977).

MAGNARELLA, PAUL J., Ph D (Harvard University)
Professor of Anthropology (1979-1979).

MAHAN, CHARLES S., M.D (Northwestern University)
Associate Professor of Obstetrics and Gynecology and Head of Ambulatory Care Division (1974-1975).

MAHAN, PARKER E., Ph.D (University of Rochester)
Professor and Chairman of Basic Dental Sciences, College of Dentistry (1971-1971).

MAHIG, JOSEPH, Ph.D. (Ohio State)
Professor of Mechanical Engineering (1967-1973).

MAHON, JOHN KEITH, Ph.D. (University of California at Los Angeles)
Professor of History and Holder of the Chair of American Studies (1954-1966).

MAHONEY, JAMES J., M.D. (University of Florida)
Assistant Professor of Medicine (1976-1977).

MAHONEY, JOHN F., Ph.D. (Lehigh University)
Associate Professor of Industrial and Systems Engineering (1964-1966).

MAINO, VERNON C., Ph.D. (University of Rochester)
Assistant Professor of Pathology (1977-1978)

MAJTHAY, ANTAL, Ph.D. (University of Szeged, Hungary)
Associate Professor of Management (1972-1972).

MALAGODI, EDWARD F., JR., Ph.D. (University of Miami)
Associate Professor of Psychology (1968-1972).

MALICKSON, DAVID L., M.S.
Associate Professor of Journalism and Communications (1969-1977).

MALONEY, FRANK EDWARD, J.D. (University of Florida)
Professor of Law and Dean Emeritus (1946-1973).

MALVERN, LAWRENCE EARL, Ph.D. (Brown University)
Professor of Engineering Sciences (1969-1969).

MALVERN, MARJORIE, Ph.D. (Michigan State University)
Associate Professor of English (1969-1975)

MANASTER, STEVEN, Ph.D (University of Chicago)
Assistant Professor of Finance (1975-1975).

MANGOS, JOHN A., M.D. (Aristotelion University)
Professor of Pediatrics, and Chief, Pulmonology and Cystic Fibrosis (1975-1975).

MANN, ROBERT T., LL.M. (Yale)
*Professor of Law (1974-1974).**

MANS, RUSTY J., Ph.D. (University of Florida)
Professor of Biochemistry and Molecular Biology (1969-1969).

MANSELL, ROBERT S., Ph.D. (University of Iowa)
Professor (Soil Physics), IFAS (1968-1979).

MANSHEIM, BERNARD J., M.D. (University of Wisconsin)
Assistant Professor of Medicine and Immunology and Medical Microbiology (1978-1978).

MAPLE, MARILYN J., M.A (University of Florida)
Coordinator of Educational Media, Learning Resources Center, J. Hillis Miller Health Center (1967-1974).

MAPLES, WILLIAM R., Ph.D. (University of Texas)
Curator of Anthropology and Chairman of Social Sciences, Florida State Museum and Joint Professor of Anthropology (1968-1973).

MARBURY, THOMAS C., M.D. (University of Texas-Houston)
Instructor of Medicine (1978-1978).

MARCH, ALLAN W., M.D (Johns Hopkins University)
Assistant Professor of Community Health and Family Medicine (1977-1977).

MARCUS, ROBERT B., JR., M.D., (University of Florida)
Assistant Professor of Radiation Therapy (1979-1979).

MARCUS, ROBERT BROWN, Ed D. (University of Florida)
Professor of Geography and Physical Sciences and Chairman of Geography Department (1954-1979).

MAREN, THOMAS H., M D. (Johns Hopkins University)
Graduate Research Professor (1955-1979)

MARGOLIS, MAXINE LUANNA, Ph.D. (Columbia University)
Associate Professor of Anthropology (1969-1974).

MARION, WAYNE RICHARD, Ph.D. (Texas A&M University)
Assistant Professor (Assistant Wildlife Ecologist), IFAS (1975-1975).

MARKEL, NORMAN N., Ph.D. (University of Chicago)
Professor of Speech, Psychology, and Anthropology (1964-1973).

MARKS, GORDON S., D.D.S. (Washington University)
Assistant Professor of Community Dentistry, College of Dentistry (1978-1978).

MARKS, RONALD G., Ph.D. (University of Florida)
Assistant Professor of Statistics (1974-1974).

MARLATT, ROBERT BRUCE, Ph.D. (University of Arizona)
Professor (Plant Pathologist), IFAS, Agricultural Research and Education Center, Homestead (1964-1973).

MARS, DONALD R., M.D. (University of Miami)
Assistant Professor of Medicine (1977-1977).

MARSHALL, H. B., JR., Ph.D. (Harvard University)
Assistant Professor of German (1978-1978).

MARSHALL, SIDNEY PAUL, Ph.D. (University of Minnesota)
Professor (Nutritionist), IFAS (1942-1958).

MARSTON, ROBERT Q., M.D. (Medical College of Virginia)
President of University of Florida and Professor of Medicine (1974-1974).

MARTIN, DONALD F., M.A..
Assistant Professor of Journalism and Communications (1974-1974).

MARTIN, FRANK G., Ph.D. (N. Carolina State College)
Associate Professor (Associate Statistician) IFAS (1964-1964).

MARTIN, JACK W., M.S. (Mass. Institute of Technology)
Assistant Professor of Building Construction (1978-1978).

MARTIN, ROBERT L., B.S.M.E. (University of Cincinnati), M.S. (University of Arkansas)
Associate Director, Physical Plant (1979-1979).

MARTIN, THOMAS E., M.S.B.C. (University of Florida)
Associate Professor of Building Construction (1964-1977).

MARTINEZ, JORGE, Ph.D. (Tulane University)
Associate Professor of Mathematics (1969-1975).

MARTSOLF, JAY DAVID, JR., Ph.D. (University of Missouri),
Professor (Climatologist), IFAS, (1979-1979).

MASKIN, MEYER H., M.D. (Wayne University)
Professor of Psychiatry, VAH (1968-1968).

MASSEY, THOMAS, M.Ed. (University of Florida)
Instructor, P. K. Yonge Laboratory School (1967-1971).

MATHENY, ALBERT R., M.A. (University of Tennessee)
Assistant Professor of Political Science (1978-1978).

MATHENY, ELLIS L., JR., (University of Tennessee)
Assistant Professor of Entomology, IFAS (1976-1976).

MATHER, F. BEN, Ph.D., (University of California-Davis)
Associate Professor, (Associate Physiologist), IFAS (1979-1979).

MATHIAS, JOHN R., M.D. (Temple University)
Associate Professor of Medicine, VAH (1975-1979).

MATHIS, WILLIAM KARY, JR., Ph.D. (Texas A&M University)
Professor and Director of Agricultural Marketing Research Center, Food and Resource Economics Department, IFAS (1969-1979)

MATHUR, DINESHWAR DAYAL, Ph.D. (University of Georgia)
Assistant Professor, (Ornamental Horticulturist), IFAS, Agricultural Research Center, Apopka (1979-1979).

MATTHEWS, CHARLES ARNOLD, Ph.D. (University of Virginia)
Professor of Finance; Associate Dean, College of Business Administration (1948-1976).

MATTHEWS, RICHARD FINIS, Ph.D. (Cornell University)
Professor (Food Technologist), IFAS (1965-1972).

MATURO, FRANK J. S., JR., Ph.D. (Duke University)
Professor of Zoology; Director of University of Florida Marine Laboratory (1958-1970).

MAUDERLI, WALTER, D.Sc. (University of Zurich)
Professor of Radiation Physics (1960-1965).

MAULDEN, DENNIS CHARLES, M.F.A. (University of North Carolina)
Assistant Professor, Theatre (1979-1979)

MAUN, ALICIA R., M.D. (Far Eastern University)
University Physician (1977-1977).

MAUTZ, ROBERT BARBEAU, J.D. (Yale University)
Regent's Professor of Law and Higher Education (1950-1975).

MAY, FRANK PIERCE, Ph.D. (University of Florida)
Professor of Chemical Engineering (1955-1969).

MAY, FRANKLIN E., Ph.D. (University of Florida)
Associate in Pharmacy (1979-1979).

MAYBERRY, MAURICE E., B.S.B.A. (University of Florida)
Director, Career Planning and Placement Center (1953-1953).

MAYHEW, IAN G., B.V.SC. (Massey University, New Zealand), Ph.D. (Cornell University)
Associate Professor, Department of Medical Sciences, College of Veterinary Medicine (1977-1977)

MAYNARD, DONALD N., Ph.D., (University of Massachusetts),
Professor and Chairperson (Horticulturist), IFAS, (1979-1979).

MCALISTER, LYLE NELSON, Ph.D. (University of California)
Distinguished Service Professor of History (1950-1979).

MCCACHREN, JAMES ROLAND, M.A.
Assistant Professor of Physical Education (1946-1946).

MCCALL, GAIL ELAINE, RE.D. (Indiana University)
Associate Professor of Recreation (1973-1979).

MCCALL, PETER T., M.Ed. (University of Florida)
Instructor, P. K. Yonge (1970-1976).

MCCALL, RITA E., M.Ed. (University of Florida)
Student Development Specialist, Housing (1979-1979).

MCCARTHY, KEVIN MICHAEL, Ph.D. (Univ. of North Carolina)
Associate Professor of English, Advisor (1969-1974).

MCCAULLEY, MARY HAWLEY, Ph.D. (Temple University)
Assistant Professor of Clinical Psychology (1964-1964).

MCCLAVE, JAMES THOMAS, Ph.D. (University of Florida)
Associate Professor of Statistics (1971-1977).

MCCLOSKEY, JANE, M.L.S. (St. U. of New York at Albany)
Assistant Law Librarian (1977-1977).

MCCLOUD, DARELL EDISON, Ph.D. (Purdue University)
*Professor, Agronomy Department, IFAS (1948-1965).**

MCCOLLOUGH, W. ANDREW, Ph.D. (University of Florida)
Associate Professor of Finance (1969-1976).

MCCONNELL, DENNIS BROOKS, Ph.D. (University of Wisconsin)
Associate Professor (Associate Ornamental Horticulturist), IFAS (1970-1975).

MCCORMICK, WILLIAM C., Ph.D. (University of Wisconsin)
Associate Professor of Pharmacy (1973-1976).

MCCOWN, JACK THOMAS, Ed.D (North Carolina State University)
Professor and Director for Federal Affairs, IFAS (1951-1979).

MCCOY, CLAY W., Ph.D. (University of California)
Professor (Entomology), Agricultural Research and Education Center, Lake Alfred, IFAS (1972-1979).

MCCOY, FRANCIS TYRONE, J.D. (University of Florida)
Professor of Law (1955-1970).

MCCOY, RALDOLPH EDWARD, Ph.D. (Cornell University)
Associate Professor (Associate Plant Pathologist), IFAS Agricultural Research Center, Ft. Lauderdale (1971-1977).

MCCOY, TERRY L., Ph.D. (University of Wisconsin)
Associate Director of the Center for Latin American Studies
Associate Professor Latin American Studies, Political Science and Sociology (1975-1978).

MCCREA, BRIAN R., Ph.D. (University of Virginia)
Assistant Professor of English (1976-1976).

MCDANIEL, R. WAYNE, B.S. (University of Florida)
Acting Director of Alumni Affairs (1978-1979).

MCDAVIS, RODERICK J., Ph.D. (University of Toledo)
Associate Professor of Education (1974-1979).

MCDONALD, CHARLES L., Ph.D. (Michigan State University)
Associate Professor of Accounting, and Assistant Director of School of Accounting (1974-1977).

MCDONALD, NANCY F., M.S.W. (University of North Carolina)
Associate Professor of Social Work in Psychiatry (1960-1969).

MCDOWELL, LEE R., Ph.D. (Washington State University)
Associate Professor, (Associate Animal Nutritionist), IFAS Tropical Animal Science, IFAS (1971-1977).

MCFADYEN, DONALD CARL, M.Ed. (University of Florida)
Instructor, P. K. Yonge Laboratory School (1966-1970).

MCFARLANE, JAMES, B.Des. (University of Florida)
Program Director and Associate Professor of Interior Design (1958-1979).

MCGHEE, MAX B., Ph.D. (Ohio State University)
Assistant Professor of Agriculture and Extension Education, IFAS (1975-1975).

MCGLYNN, F. DUDLEY, Ph.D. (University of Missouri)
Professor of Basic Dental Sciences, College of Dentistry (1979-1979).

MCGRIFF, LEE, B.S. (University of Florida)
Assistant Football Coach (1978-1978).

MCGUIGAN, JAMES E., M.D. (St. Louis School of Medicine)
Professor and Chairperson, Department of Medicine (1969-1976).

MCGUINESS, DAVID M., Ph.D. (University of Minnesota)
Assistant Professor of History (1976-1976).

MCGUIRE, PETER, Ph.D. (University of North Carolina)
Assistant Professor, Department of Biochemistry, College of Medicine, (1975-1975). College of Veterinary Medicine (1975-1975).

MCGUIRE, VINCENT, Ed.D. (University of Florida)
*Professor of Education (1947-1960).**

MCKEE, JEAN M., P.A.C. (University of Florida)
Physician's Assistant (1975-1975).

MCKEE, VERNON C., Ph.D. (Iowa State University)
Associate Professor (Director of Planning and Business Affairs), IFAS (1969-1969).

MCKENZIE, MICHAEL W., Ph.D. (Purdue University)
Associate Professor of Pharmacy (1971-1977).

MCKENNA, PATRICK J., (University of Michigan)
Assistant Professor of Mathematics (1978-1978).

MCKNEW, APRIL M., M.Ed. (University of Florida)
Instructor, P. K. Yonge Laboratory School (1977-1977).

MCKNIGHT, STEPHEN ALEN, Ph.D. (Emory University)
Associate Professor and Chairman of Humanities (1972-1977).

MCLEAN, JAMES P., M.B.A. (University of Florida)
Assistant Professor of Community Health and Family Medicine and Associate Dean for Administration (1972-1975).

MCMILLAN, ROBERT THOMAS, JR., Ph.D. (Washington State Univ.)
Associate Professor (Associate Plant Pathologist), IFAS, Agricultural Research and Education Center, Homestead (1967-1973).

MCMILLIN, MARVIN R., Ed.D. (University of Florida)
Associate Professor of Education and Assistant Dean, College of Education (1969-1975).

MCNAB, BRIAN KEITH, PH.D. (University of Wisconsin)
Professor of Zoology (1961-1971).

MCPHERSON, WOODROW WILSON, Ph.D. (Harvard University)
Graduate Research Professor, Food and Resource Economics Department, IFAS, (1962-1962).

MCRAE, JOHN M., M.Arch. (Rice University)
Associate Dean and Associate Professor of Architecture (1967-1979).

MCQUOWN, O. RUTH, Ph.D. (University of Florida)
Professor of Political Science and Associate Dean, of Liberal Arts and Sciences (1961-1974).

MCSORLEY, ROBERT TERENCE, Ph.D. (Purdue University)
Assistant Professor, (Assistant Nematologist), IFAS, Agricultural Research and Education Center, Homestead (1978-1978).

MCTAMMANY, WILLIAM E., B.S. (Rollins College)
Associate Director Administrative Computing Services (1978-1979).

MEALIEA, WALLACE L., M.A., Ph.D. (University of Missouri)
Professor of Basic Dental Sciences, College of Dentistry (1975-1978).

MEDINA, JOSE E., D.D.S. (University of Maryland)
Professor of Operative Dentistry and Assistant Vice President for Facilities Planning and Operations, J. Hillis Miller Health Center (1967-1976).

MEDLEY, EVAN SCOTT, M.D., (University of Kentucky)
Assistant Professor of Community Health and Family Medicine Director, Family Practice Unit (1979-1979).

MEEK, PHYLLIS M., Ed.D. (University of Florida)
Associate Dean for Student Services and Assistant Professor of Education (1966-1973).

MEHTA, ASHISH J., Ph.D. (University of Florida)
Assistant Professor of Coastal & Oceanographic Engineering, (1974-1974).

MEHTA, JAWAHAR, M.D. (Medical College, Armitsar, India)
Assistant Professor of Medicine (1976-1976).

MEHTA, PAULETTE, M.D. (University of Louvain, Belgium)
Assistant Professor of Pediatrics (1979-1979).

MELAMED, BARBARA, Ph.D. (Case Western Reserve)
Professor of Clinical Psychology (1977-1978).

MELKER, RICHARD J., M.D. (Albert Einstein University)
Assistant Professor of Pediatrics and Director, Emergency Medical Services, STH (1979-1979).

MELTON, BRYAN E., Ph.D (Iowa State University)
Assistant Professor, Food & Resource Economics, IFAS (1977-1977).

MENDENHALL, WILLIAM, Ph.D. (North Carolina State College)
Professor of Statistics (1963-1963)

MENKS, FEROL, M.S. (Ohio State University)
Assistant Professor of Occupational Therapy (1973-1973).

MENNELLA, ANTHONY, P.A.C. (University of Florida)
Physician's Assistant (1977-1977)

MERCER, CECIL DUKE, Ed.D. (University of Virginia)
Associate Professor of Education (1974-1977).

MERIMEE, THOMAS J., M.D. (University of Louisville)
Professor and Chief of Endocrinology (1974-1974).

MERRITT II, ALFRED M., D.V.M. (Cornell University), M.S. (University of Pennsylvania)
Professor, Department of Medical Sciences, College of Veterinary Medicine (1978-1978).

MERRITT, HARRY C., JR., M.S. (Harvard)
Professor of Architecture (1960-1973).

MERWIN, GERALD E., M.D. (University of Minnesota)
Assistant Professor of Surgery (1979-1979).

MESA, ROSA QUINTERO, M.S.L.S.
Librarian, Latin American Collection (1961-1977).

MESCH, BARRY, Ph.D. (Brandeis University)
Associate Professor of Religion (1969-1975).

MESSIER, WILLIAM F., D.B.A. (Indiana University)
Assistant Professor of Accounting (1978-1979).

MESSINA, WILLIAM JAMES, M.S. (University of Georgia)
Director of Program Development IFAS (1973-1976).

METCALF, JOSEPH F., Ph.D. (Florida State University)
Assistant Professor of Ophthalmology (1974-1974).

METTS, PAUL E., B.A., C.P.A. (University of South Florida)
Director of Administrative Services, Shands Teaching Hospital & Clinics (1977-1977).

MEURLOTT, K. B., M.J. (University of Florida)
Assistant Professor and Director, Division of Information and Public Services (1966-1973).

MEYER, DENNIS J., D.V.M. (University of Minnesota)
Assistant Professor, Department of Medical Sciences, College of Veterinary Medicine (1976-1976).

MEYER, MERLE E., Ph.D. (University of Washington)
Professor and Chairperson of Psychology and Professor of Clinical Psychology (1972-1972).

MEYERHOLZ, GEORGE WILLIAM, D.V.M. (Iowa State University)
Professor (Extension Veterinarian), Department of Preventive Medicine, College of Veterinary Medicine-IFAS (1968-1974).

MEYERS, HARRY GEORGE, Ph.D. (University of Georgia)
Associate Professor (Associate Extension Turf Specialist), IFAS (1966-1976).

MHATRE, UMESH M., M.B. B.S. (Gover Handas Sunderdas Medical College of India)
Instructor of Psychiatry (1979-1979).

MICHA, DAVID ALLAN, Ph.D. (Uppsala University)
Professor of Chemistry and Physics (1969-1974).

MICHAEL, MAX, JR., M.D. (Harvard University)
Professor of Medicine and Assistant Vice President for Health Affairs (1959-1979).

MICKLE, J. PARKER, M.D., (Vanderbilt University)
Associate Professor of Surgery (1979-1979).

MICKLE, STEPHAN P., J.D. (University of Florida)
Assistant Professor of Law (1971-1971).

MIDCAP, JAMES THOMAS, Ph.D. (Kansas State University)
Assistant Professor (Extension Ornamental Horticulturalist), IFAS (1975-1975).

MILAM, JAMES R., M.S. (University of Florida)
Associate in Microbiology and Cell Science, IFAS (1975-1975).

MILANICH, JERALD T., Ph.D. (University of Florida)
Associate Curator of Archaeology, Florida State Museum, and Joint Associate Professor of Anthropology (1972-1977).

MILES, RICHARD DAVIS, Ph.D. (Purdue University)
Assistant Professor (Assistant Poultry Nutrionist), IFAS, (1976-1976).

MILLER, ALAN B., M.D. (University of Pittsburgh)
Associate Professor of Medicine, JHEP (1973-1978).

MILLER, CECIL D., B.B.A. (Citadel)
Lieutenant, U.S. Navy, Assistant Professor of Naval Science (1980-1980).

MILLER, CLEVE DOUGLAS, LL.M. (New York University)
*Professor of Law (1973-1978).**

MILLER, D. GARY, Ph.D. (Harvard University)
Associate Professor of Classics and Linguistics (1972-1976).

MILLER, DAMON, M.S. (Iowa State University)
Assistant Professor (Assistant State 4-H Youth Development Specialist) FAMU, IFAS (1970-1972).

MILLER, GARY J., Ph.D. (University of Florida)
Assistant Professor of Orthopaedic Surgery (1978-1978).

MILLER, PATRICIA H., Ph.D. (University of Minnesota)
Associate Professor of Psychology (1979-1979).

MILLER, ROBERT H., M.D. (University of Florida)
Associate Professor of Pediatrics, JHEP (1968-1973).

MILLER, SCOTT A., Ph.D. (University of Minnesota)
Associate Professor of Psychology (1977-1977).

MILLER, WILLIAM M., Ph.D. (Pennsylvania State University)
Assistant Professor (Assistant Agricultural Engineer), IFAS AREC-Lake Alfred (1975-1975).

MILLIMAN, JEROME W., Ph.D. (U. of Calif. at Los Angeles)
Professor of Economics and Urban and Regional Planning (1976-1976).

MILLION, RODNEY R., M.D. (Indiana Medical School)
Professor of Radiation Therapy (1964-1969).

MILLS, JAMES E., M.S.E.E. (Georgia Institute of Technology)
Director Data Processing (1974-1977).

MILLS, JON L., J.D. (University of Florida)
Associate in Law Research (1972-1972).

MILLSAPS, KNOX, Ph.D. (California Institute of Technology)
Professor of Engineering Sciences and Chairman of the Department (1973-1973).

MILNER, GILBERT C., III, M.D. (University of Texas Southwestern)
Associate Professor of Psychiatry (1973-1979).

MILON, J. WALTER, Ph.D. (Florida State University)
Assistant Professor, (Assistant Extension Economist), IFAS (1978-1978).

MILTON, JAMES EDMUND, Ph.D. (University of Florida)
Engineer in Engineering Sciences; Resident Director, Eglin Grad. Engr. Ctr. (1966-1977).

MILTON, RUTH LOUISE, M.S. (Florida State University)
*Associate Professor, (Extension 4-H Youth Specialist), IFAS, (1952-1966).**

MINGO, GWENUEL W., M.Ed.
Director, DSSSP and Lecturer (1974-1978).

MINNICK, DANNY RICHARD, Ph.D. (University of Florida)
Associate Professor (Associate Entomologist), IFAS (1971-1976).

MIRANDA, SALVADOR, M.S.L.S. (Florida State University)
Assistant Librarian, Acquisitions (1976-1976).

MISBIN, ROBERT I., M.D. (John Hopkins University)
Assistant Professor of Medicine (1976-1976).

MISHOE, JOHN WAYNE, Ph.D. (North Carolina State University)
Associate Professor (Associate Agricultural Engineer), IFAS (1974-1979).

MISLEVY, PAUL, Ph.D. (Pennsylvania State University)
Associate Professor (Associate Agronomist), IFAS, Agricultural Research Center, ONA (1971-1977).

MITCHELL, DAVID JAMES, Ph.D. (University of California)
Associate Professor (Associate Plant Pathologist), IFAS (1971-1976).

MITCHELL, VERVIL LOUENE, M.S.
Associate Professor (Extension Home Mgt. and Family Economic Specialist), IFAS (1965-1973).

MITRANI, JOSE DAVID, ENGR. (University of Florida)
Assistant Professor of Civil Engineering (1976-1976).

MOAZAM, FARHAT, M.B., B.S. (Dow Medical College, Pakistan)
Visiting Assistant Professor of Surgery (1978-1978).

MOBERLY, ROBERT B., J.D. (University of Wisconsin)
Professor of Law (1977-1979).

MODELL, JEROME H., M.D. (University of Minnesota)
Professor and Chairperson, Department of Anesthesiology (1969-1969).

MOFFAT, ROBERT C. L., LL.M. (University of Sydney)
Professor of Law (1966-1971).

MOHAMMED, HAMDI A., Ph.D. (University of Michigan)
Professor and Chairman of Dental Biomaterials, College of Dentistry (1974-1974).

MON BONNIE E., M.N. (University of Florida)
Assistant Professor, College of Nursing (1976-1979).

MONIF, GILLES, R.G., M.D. (Boston University)
Associate Professor of Obstetrics and Gynecology (1968-1971).

MONKHORST, HENDRIK JAN, Ph.D. (University of Groningen)
Associate Professor of Physics (1978-1978).

MONTELARO, JAMES, Ph.D. (University of Florida)
Professor (Extension Vegetable Specialist), IFAS (1952-1965).

MONTES, ALFREDO, Ph.D. (University of Florida)
Assistant Research Scientist and Chief of Party, International Programs, IFAS El Salvador, (1978-1979).

MONTGOMERY, HOYLE FLEMING, JR., M.A. in L.S.
Associate Librarian, Reference and Bibliography (1962-1970).

MOODY, LINDA ELIZABETH, Ph.D. (University of Florida)
Assistant Professor, Extension Health Education Specialist (1977-1977).

MOORE, ALAN CONINGSBY, M.Ed., M.A.
Professor of Physical Education (1953-1977).

MOORE, CLARENCE A., Ph.D. (University of Alabama)
Professor and Chairperson of General Physical Education (1971-1971).

MOORE, G. PAUL, Ph.D. (Northwestern University)
Distinguished Service Professor, Speech (1961-1977).

MOORE, JOHN EDWARD, Ph.D. (Ohio State University)
Professor (Animal Nutritionist), IFAS (1961-1973).

MOORE, ROBERT D., B.S.B.A. (Florida)
Athletic Business Manager (1966-1973).

MOORE, THERAL ORVIS, Ph.D. (University of Missouri)
Associate Professor of Mathematics (1955-1966).

MOORHEAD, MICHAEL JOHATHAN, J.D. (Howard University)
Professor of Law (1978-1978).

MORELAND, ALVIN F., D.V.M., M.S. (University of Georgia)
Professor and Head, Division of Lab Animal/Wildlife Medicine and Director, Health Center Animal Resources, Professor, Department of Special Clinical Sciences, College of Veterinary Medicine (1963-1979).

MORGAN, ALICE ESTHER, M.Ed. (University of North Carolina)
Associate Professor of Education (1958-1977).

MORGAN, CHARLES FREDERICK, M.Arch. (UCLA)
Assistant Professor of Architecture (1976-1976).

MORGAN, JAMES I., Ed.D. (University of Florida)
University Counseling Psychologist, University Counseling Center, Associate Professor of Counselor Psychology and Counselor Education (1967-1967).

MORGAN, MARGARET K., Ph.D. (University of Kentucky)
Associate Professor (1972-1976).

MORRILL, OLIVE LEMON, Ed.D. (Dacca University)
Assistant Dean and Professor, Home Economics Program, and Chairperson Home Economics Department, IFAS (1970-1970).

MORRIS, CHRISTINE M., M.Ed. (University of Florida)
University School Instructor, P. K. Yonge Laboratory School (1972-1977).

MORRIS, MILTON E., Ph.D. (University of Wisconsin)
Professor and Chairperson, (Editor), IFAS (1976-1976).

MORRISON, JAMES F., Ph.D. (Stanford University)
Associate Professor of Political Science (1966-1971).

MORSE, RICHARD HUGH, M.Arch. (Kansas State University)
Associate Professor of Architecture and Director of Student Services (1967-1973).

MORTENSEN, JOHN ALAN, Ph.D. (Cornell University)
Professor (Geneticist), IFAS Agricultural Research Center, Leesburg (1960-1977).

MOSCOVICI, CARLO, Ph.D. (Rome)
Professor of Pathology and Immunology and Medical Microbiology, VAH (1967-1973).

MOSKOVITZ, RICHARD A., M.D. (Harvard)
Assistant Professor of Psychiatry (1977-1977).

MOTT, GERALD OAKLEY, Ph.D. (Cornell University)
Professor of Agronomy, IFAS (1968-1968).

MOULDER, PETER V., M.D. (University of Chicago)
Professor of Surgery and Chief of Thoracic and Cardiovascular Surgery, VAH (1973-1973).

MOXLEY, CLISBY CAREY, Ph.D. (University of Kentucky)
Professor, Food and Resource Economics Department, IFAS (1955-1961).

MOYE, HUGH ANSON, Ph.D. (University of Florida)
Professor, (Chemist), IFAS (1965-1978).

MUELLER, PAUL ALLEN, Ph.D. (Rice University)
Associate Professor of Geology (1973-1978).

MUGA, MARVIN LUIS, Ph.D. (University of Texas)
Professor of Chemistry (1960-1976).

MULKEY, W. DAVID, Ph.D. (Clemson University)
Assistant Professor, Food & Resource Economics, IFAS (1977-1977).

MULLALLY, LEE J., Ph.D. (Michigan State University)
Associate Professor in Education (1978-1978).

MULLINS, JOHN THOMAS, Ph.D. (University of North Carolina)
Professor of Botany, IFAS (1959-1975).

MUNIZ, CARLOS E., M.D. (University of Havana)
Associate Professor of Psychiatry (1971-1975).

MUNRO, ROBERT J., J.D. (University of Iowa)
Associate Law Librarian (1975-1975).

MUNSON, EDWIN S., M.D. (University of Tennessee)
Professor of Anesthesiology (1971-1971).

MUNSON, JOHN B., Ph.D. (University of Rochester)
Associate Professor and Graduate Coordinator of Neuroscience and Associate Professor of Physiology (1969-1974).

MUNYER, EDWARD ARNOLD, M.S. (Illinois State University)
Associate Curator in Education, Florida State Museum (1970-1975).

MURPHY, CAROL JEAN, Ph.D. (University of Pennsylvania)
Assistant Professor of French (1979-1979).

MURPHY, LIZETTE L., M.S. (University of Alabama)
Associate Professor (Extension Food Utilization Specialist), IFAS (1970-1975).

MURPHY, THOMAS FROST, M.B.A. (California at Berkeley)
Director of Business Associates, College of Business Administration (1969-1969).

MURRAY, ERNEST DON, M.F.A., M.Ed.
Associate Professor of Humanities (1968-1974).

MUSCHLITZ, EARLE EUGENE, JR., Ph.D. (Penn State University)
Professor of Chemistry (1954-1958).

MUTCH, PATRICIA JANE, M.A. (University of Florida)
Visiting Instructor of Speech (1979-1979)

MUTH, EGINHARD, J., Ph.D. (Polytechnic Institute of Brooklyn)
Professor of Industrial and Systems Engineering (1965-1974).

MUTHARD, JOHN E., Ph.D. (Ohio State University)
Professor and Chairperson of Rehabilitation Counseling and Head of Rehabilitation Research Institute (1967-1968).

MUTHER, THOMAS F., Ph.D. (University of Leeds)
Associate Professor of Pharmacology and Therapeutics (1963-1974).

MUZYCZKA, NICHOLAS, Ph.D. (Johns Hopkins University)
Assistant Professor of Immunology and Medical Microbiology (1977-1977).

MYERS, GARDINER, Ph.D. (University of California at Berkeley)
Associate Professor of Chemistry (1965-1972).

MYERS, JULIAN MOSTELLA, M.S.A. (University of Florida)
Professor (Agricultural Engineer), IFAS (1947-1960).

MYERS, ROBERT BROWN, Ed.D. (University of Florida)
Professor and Chairperson of General Teacher Education (1952-1975).

MYHRE, DONALD LAVERNE, Ph.D. (University of Wisconsin)
Professor Soil Science Department, IFAS (1975-1975).

MYRICK, ROBERT DEWAYNE, Ph.D. (Arizona State University)
Professor of Education (1967-1972).

NAGAN, WINSTON PERCIVAL, LL.M. (Duke University)
*Professor of Law (1975-1978).**

NATION, JAMES LAMAR, Ph.D. (Cornell University)
Professor of Entomology (1960-1972).

NATTRESS, JOHN ANDREW, D.E. (Embry-Riddle University)
Executive Vice President and Professor of Industrial and Systems Engineering (1957-1978).

NATTRESS, MARGARET BICE, M.A. (Northwestern University)
Associate Professor of Speech (1969-1975).

NAYLOR, JOHN GEOFFRY, M.F.A. (University of Illinois)
Professor of Art (1959-1977).

NEAL, FRED CARLTON, D.V.M., M.S. (Texas A & M University)
Associate Professor (Associate Veterinarian), Department of Preventive Medicine, College of Veterinary Medicine — IFAS (1962-1966).

NEALE, JAMES RALPH, JR., Ed.D. (Columbia University)
Associate Professor of English (1946-1963).

NEHILEY, JAMES MICHAEL, Ph.D. (Florida State University)
Assistant Professor (Editor) IFAS, (1974-1979).

NEILSON, JOHN TAYLOR, Ph.D. (University of Glasgow)
Associate Professor (Associate Parasitologist), Department of Metabolism, College of Veterinary Medicine — IFAS (1968-1973).

NEIMS, ALLEN H., M.D. Ph.D. (Johns Hopkins University)
Professor and Chairperson, Department of Pharmacology and Therapeutics, and Professor of Pediatrics (1978-1978).

NELL, TERRIL ARNOLD, Ph.D. (Michigan State University)
Assistant Professor (Ornamental Horticulturist) (1976-1976).

NELSON, CHARLES WARREN, Ph.D. (University of Maryland)
Professor of Mathematics and Education (1966-1974).

NELSON, MARIE D., Ph.D. (University of Oregon)
Associate Professor of English (1974-1979).

NEUGROSCHEL, ARNOST, Ph.D. (Technion Israel Inst. Tech.)
Associate Professor of Electrical Engineering (1975-1979).

NEVILL, DOROTHY D., Ph D. (University of Florida)
Associate Professor of Psychology (1971-1977).

NEVILL, GALE ERWIN, JR., Ph.D. (Stanford University)
*Professor of Engineering Sciences (1964-1968).**

NEVIS, ARNOLD HASTINGS, M.D. (Harvard University), Ph D. (Massachusetts Institute of Technology)
Professor of Electrical Engineering and Biophysics (1960-1971).

NEW, MELVYN, Ph.D. (Vanderbilt University)
Professor of English and Acting Chairman (1966-1976).

NEWCOMB, ARTHUR PERRY, JR., Ph.D. (Stanford University)
Associate Professor of Education (1963-1963).

NEWELL, JOHN M., Ph.D. (University of Texas)
Professor of Education (1967-1971).

NEWMAN, ARTHUR J., Ed.D. (Indiana University)
Professor of Education (1968-1977).

NEWMAN, E. GUSTAVE, M.D. (Duke University)
Associate Professor of Psychiatry (1977-1977).

NEWMAN, ROBERT E., M.D (George Washington University)
Assistant Professor of Psychiatry (1977-1977).

NEWTON, JANETTA W., B.D.S. (Edinburgh University), D.M.D. (University of Alabama — Birmingham)
Assistant Professor of Oral Medicine, College of Dentistry (1974-1974).

NEWTON, MICHAEL J., M.S. (Texas A & M University)
Assistant in Forestry, IFAS (1978-1978).

NICHELSON, JACK C., M.F.A. (Indiana University)
Professor of Art (1961-1978).

NICHOLS, GERALDINE CLEARY, Ph.D. (Johns Hopkins University)
Assistant Professor of Spanish (1979-1979).

NICHOLS, WILMER W., Ph.D. (University of Alabama)
Associate Professor of Medicine and Assistant Professor of Physiology (1974-1974).

NICKENS, JOHN MARCUS, Ph.D. (Florida State University)
Associate Professor of Education (1971-1977).

NICOL, DAVID, Ph.D. (Stanford University)
Professor of Zoology (1965-1978).

NICOLETTI, P. L., D.V.M., (University of Missouri), M.S. (University of Wisconsin)
Professor, Department of Preventive Medicine, College of Veterinary Medicine — IFAS (1978-1978).

NIDDRIE, DAVID LAWRENCE, Ph.D. (University of Manchester, England)
Professor of Geography (1966-1966).

NIGG, HERBERT NICHOLAS, Ph.D. (University of Illinois)
Associate Professor (Associate Entomologist), IFAS, Agricultural Research and Educatinal Center, Lake Alfred (1974-1979).

NOONAN, KENNETH D., Ph.D. (Princeton University)
Associate Professor of Biochemistry and Molecular Biology (1973-1978).

NOONAN, NORINE E., Ph.D. (Princeton University)
Assistant Professor, Department of Metabolism, College of Veterinary Medicine (1976-1976).

NORDEN, ALLAN JAMES, Ph.D. (Iowa State University)
*Professor of Agronomy, IFAS, (1958-1971).**

NORDLIE, FRANK GERALD, Ph.D. (University of Minnesota)
Professor of Zoology (1961-1976).

NORDSTEDT, ROGER ARLO, Ph.D. (Ohio State University)
Associate Professor (Associate Agricultural Engineer), IFAS (1969-1975).

NORMANN, SIGURD J., Ph.D., M.D. (University of Washington)
Professor and Chief of Cardiac Pathology (1968-1977).

NORTHROP, JAMES CLEMENT, Ed.D. (University of Florida)
Associate Professor (Extension 4-H Youth Specialist), IFAS (1974-1978).

NOTELOVITZ, MORRIS, M.D. (University of Witwatersrand)
Associate Professor of Obstetrics and Gynecology (1974-1979).

NOVAK, JERRY R., M.S. (Florida State University)
Colonel, US Army, Professor of Military Science (1978-1978).

NOYES, WARD D., M.D. (University of Rochester)
Professor and Chief of Hematology (1961-1975).

NUETZEL, WILLIAM ANDREW, M.S. (Purdue University)
Associate Professor of Health Education (1959-1969).

NUNEZ, THERON ALDINE, JR., Ph.D. (University of California)
Associate Professor of Anthropology (1963-1968).

NUNNERY, MICHAEL YATES, Ed.D. (University of Tennessee)
Professor of Education (1968-1968).

NUTTER, RONALD E., Ph.D. (University of Michigan)
Assistant Professor in Education (1978-1978).

NYE, DAVID J., Ph.D. (University of Pennsylvania)
Associate Professor of Insurance and Finance (1971-1978).

OBERLIN, LYNN C., Ed.D. (Michigan State University)
Professor of Education (1970-1977).

OBERST, M.A., J.D. (University of Florida)
Associate Professor of Law (1979-1979).

OBLINGER, JAMES L., Ph.D. (Iowa State University)
Associate Professor (Associate Food Microbiologist), IFAS (1972-1977).

O'BRIEN, DANIEL J., B.S.N. (University of Florida)
Associate in Nursing, College of Nursing (1978-1978).

O'BRIEN, THOMAS W., Ph.D. (Marquette University)
Professor of Biochemistry and Molecular Biology (1966-1979).

OCHI, MICHEL DAZUO, Ph.D. (American University)
Professor of Coastal and Oceanograhic Engineering (1979-1979).

O'CONNELL, JOHN PAUL, Ph.D. (University of California)
Professor of Chemical Engineering (1966-1974).

O'CONNOR, JOHN ARTHUR, M.A. (University of California at Berkeley)
Associate Professor of Art (1969-1975).

OCUMPAUGH, WILLIAM ROBERT, Ph.D. (University of Missouri)
Associate Professor, (Associate Agronomist), IFAS (1975-1975).

ODUM, HOWARD THOMAS, Ph.D. (Yale University)
Graduate Research Professor of Environmental Engineering Sciences (1970-1970).

OHANIAN, MIHRAN J., Ph.D. (Rensselaer Polytechnic Institute)
Associate Dean for Research, College of Engineering, Associate Director, Engineering and Industrial Experiment Station, Professor of Nuclear Engineering Sciences (1963-1979).

OHRN, NILS YNGVE, Ph.D. (Uppsala)
Professor of Chemistry and Physics, Chairperson of Chemistry Department (1966-1977).

OLDFIELD, ELIZABETH A., M.Ed. (University of Florida)
Assistant in Psychiatry (1977-1977).

OLEJNIK, STEPHEN F., Ph.D. (Michigan State University)
Assistant Professor in Education (1978-1978).

OLIVER, CALVIN CLEET, Ph.D. (Purdue University)
Professor of Mechanical Engineering and Professor of Engineering Sciences (1967-1967).

OLIVER, CLIFTON, JR., M.A. (Texas Technological College)
Associate Professor of Management (1946-1959).

OLIVER, JOHN PARKER, Ph.D. (University of California at L.A.)
Associate Professor of Astronomy (1970-1977).

OLIVER, LESLIE H., Ph.D. (McGill University)
Associate Professor of Computer and Information Sciences, College of Engineering (1979-1979).

OLIVER-SMITH, ANTHONY RICHARD, Ph.D. (Indiana University)
Associate Professor of Social Sciences and Anthropology; Associate Curator of Ethnology (1972-1977).

OLSON, TIMOTHY AANEN, Ph.D. (Iowa State University)
Assistant Professor, (Animal Breeding), IFAS (1977-1977).

OLSSON, CARL NIELS, Ph.D. (University of Florida)
Associate Professor of Geography, Physical Sciences and Astronomy (1958-1972).

O'MALLEY, JOHN RICHARD, Ph.D. (University of Florida)
Professor of Electrical Engineering (1959-1973).

OMER, GUY CLIFTON, JR., Ph.D. (California Institute of Tech.)
*Professor of Astronomy and Physics (1955-1972).**

ONODA, GEORGE Y., JR., Ph.D. (MIT)
Professor of Materials Science and Engineering (1972-1978).

ORLANDO, JACQUELINE, Ph.D. (University of Florida)
Assistant Professor of Community Health and Family Medicine (1977-1977).

ORSER, FRANK WILLIAM, M.S.
Associate Librarian and Assistant Chairperson, Acquisitions Department, (1969-1969).

ORSER, LAWAN V., M.L.S. (Rutgers University)
Associate Librarian, IFAS (1970-1975).

ORTH, PAUL GERHARDT, Ph.D. (University of Wisconsin)
Associate Professor, (Associate Soils Chemist), IFAS, Agricultural Research and Education Center, Homestead (1959-1978).

OSTERBIND, CARTER CLARKE, Ph.D. (American University)
Professor of Economics and Director of Center for Gerontological Studies (1950-1971).

OSTOICH, MARK STEPHEN, M.M. (Louisiana State University)
Assistant Professor of Music (1974-1977).

OSWALD, ANDREW JACKSON, B.S. (Troy State College)
Associate in Research Administration (Management), IFAS (1973-1973).

OTIS, ARTHUR B., Ph.D. (Brown University)
Professor and Acting Chairperson, Department of Physiology (1956-1979).

OTT, DANIEL D., B.A. (Buena Vista College)
Coordinator of Development and Alumni Affairs for Annual Giving (1979-1979).

OTT, EDGAR ALTON, Ph.D. (Purdue University)
Professor (Animal Nutritionist) IFAS, (1970-1979).

OTWELL, WALTER STEVEN, Ph.D. (North Carolina State University)
Assistant Professor, (Extension Seafood Technologist), IFAS (1978-1978).

OVERMAN, ALLEN RAY, Ph.D. (North Carolina State College)
Professor (Agricultural Engineer), IFAS (1969-1979).

OVERMAN, AMEGDA JACK, M.S. (University of Florida)
Professor (Nematologist), IFAS, Agricultural Research and Education Center, Bradenton (1951-1973).

OWEN, DENNIS EDWARD, Ph.D. (Princeton University)
Assistant Professor of Social Sciences and Religion (1974-1974).

OXFORD, A. BRANTLEY, D.D.S. (Emory University)
Assistant Professor of Periodontics, College of Dentistry (1979-1979).

OZAKI, HENRY YOSHIO, Ph.D. (Cornell University)
Associate Professor (Associate Horticulturist), IFAS, Agricultural Research Center, Belle Glade, Morikami Farm, Delray Beach (1954-1966).

PACKER, ATHOL B., Ph.D. (University of Kansas)
Associate Professor of Education (1967-1972).

PACTOR, H. SIDNEY, M.A.
*Assistant Professor of Journalism and Communications (1972-1974).**

PAFFORD, VIRGIE MELTON, M.P.H. (University of North Carolina)
*Associate Professor, College of Nursing (1959-1977).**

PAGANINI, LOUIS ANTHONY, Ph.D. (University of Florida)
Associate Professor of Geography (1968-1979).

PAGOULATOS, EMILIO, Ph.D. (Iowa State University)
Associate Professor, Food and Resource Economics, IFAS, (1979-1979).

PAIGE, ARNOLD, Ph.D. (University of California)
Associate Professor of Electrical Engineering and Speech (1966-1966).

PALENIK, GUS J., Ph.D. (University of Southern California)
Professor of Chemistry (1970-1972).

PALMER, ARNO ZANE, Ph.D. (University of Missouri)
Professor (Meat Scientist), IFAS (1955-1964).

PALMER, RICHARD DELRAY, Ed.D. (University of Florida)
Continuing Education Coordinator, Treeo Center, Division of Continuing Education (1966-1978).

PALMORE, W.P., D.V.M. (Auburn University), Ph.D. (Yale University)
Associate Professor (Associate Physiologist), Department of Preventive Medicine, College of Veterinary Medicine-IFAS, (1974-1974).

PANIDES, WALLACE C., Ph.D. (Florida State University)
Assistant Professor of Social Work in Pediatrics (1976-1978).

PANUSH, RICHARD S., M.D. (University of Michigan)
Associate Professor of Medicine, and Chief, Allergy and Rheumatology (1973-1978).

PARKER, ROBERT B., D.V.M. (University of California at Davis)
Assistant Professor, Department of Surgical Sciences, College of Veterinary Medicine (1977-1977).

PARKER, W. JAMES, M.S. (Indiana University)
Assistant Football Coach (1978-1978).

PARKER, WOODROE M., Ph.D. (University of Florida)
Assistant Professor of Education (1974-1977).

PARRISH, FRED S., Ph.D. (Florida State University)
*Assistant Professor of Journalism and Communications (1970-1973).**

PARRISH, JAMES BRYAN, B.S.B.A. (University of Florida)
Director of Admissions (1963-1970).

PARSONS, LAWRENCE REED, Ph.D. (Duke University)
Assistant Professor (Assistant Horticulturist), IFAS, AREC Lake Alfred, (1979-1979).

PARTHENIADES, EMMANUEL, Ph.D. (University of California)
*Professor of Engineering Sciences, and Professor of Coastal and Oceanographic Engineering (1968-1969).**

PATE, FINDLAY MOYE, Ph.D. (University of Georgia)
Associate Professor (Associate Animal Nutritionist), IFAS Agricultural Research and Educational Center, Belle Glade, (1970-1975).

PATRICK, J. CHRIS, M.Ed. (Eastern Kentucky)
Head Athletic Trainer (1970-1970).

PATTERSON, ELAM PUSEY, M.A.E. (University of Florida)
Assistant Professor of Mechanical Engineering (1952-1956).

PATZ, DENNIS H., Ph.D. (University of Texas)
Associate Professor of Accounting (1978-1979).

PAUL, HARRY W., Ph.D. (Columbia University)
Professor of History (1966-1973).

PAUL, WILLIAM L., M.D. (University of Kentucky)
Assistant Professor of Anesthesiology (1976-1976).

PEACOCK, FENTRESS MCCOUGHAN, M.S. (University of Florida)
Professor (Animal Husbandman), IFAS, Agricultural Research Center, ONA (1952-1977).

PEACOCK, HUGH ANTHONY, Ph.D. (Iowa State University)
Professor (Agronomist) and Center Director, IFAS, Agricultural Research Center, Jay (1973-1973).

PECK, AMMON, B., Ph.D., (University of Wisconsin)
Assistant Professor of Pathology (1979-1979).

PEEK, RALPH LEON, Ph.D. (University of Florida)
Associate Professor of Social Sciences and History (1963-1969).

PELL, CHARLES, B.S. (Alabama)
Head Football Coach (1978-1978).

PENLAND, ARNOLD CLIFFORD, JR., M.Ed. (Duke University)
Associate Professor of Music (1970-1970).

PENNYPACKER, HENRY S., Ph.D. (Duke University)
Professor of Psychology (1962-1970).

PEPINE, CARL J., M.D. (New Jersey College of Medicine)
Associate Professor of Medicine, VAH (1974-1975).

PEPINSKY, RAYMOND, Ph.D. (University of Chicago)
Professor of Physics, and Materials Science, Engineering and Electrical Engineering (1968-1973).

PEREZ, FERMIN LUIS, M.L.S. (Kansas State Teachers College)
Assistant Law Librarian (1967-1968).

PERKIN, JUDY, M.A. (University of Texas)
Instructor in Clinical and Community Dietetics (1977-1978).

PERKINS, HAVEN M., M.D. (University of Louisville)
Professor of Anesthesiology (1959-1972).

PERKINS, JIMMY C., B.S.
Assistant to the Graduate Dean and Assistant to the Director of Sponsored Research (1950-1973).

PERLETTE, JOHN M., Ph.D. (University of Chicago)
Associate Professor of English (1973-1978).

PERRIN, JOHN HENSTOCK, Ph.D. (University of London)
Professor of Pharmacy and Associate Chairman, Pharmacy (1976-1976).

PERRY, NATHAN WARREN, Ph.D. (Florida State University)
Professor and Chairman of Clinical Psychology and Professor of Psychology (1963-1977).

PERRY, VERNON G., Ph.D. (University of Wisconsin)
Professor and Assistant Dean for Research, (Nematologist), IFAS (1959-1978).

PERSON, WILLIS BAGLEY, Ph.D. (University of California)
Professor of Chemistry (1966-1966).

PESEK, JOSEPH A., M.D. (University of Miami)
Assistant Professor of Pediatrics (JHEP) (1974-1974).

PETERS, DONALD C., J.D. (University of Iowa)
Professor of Law (1973-1978).

PETERS, WAYNE L., M.D. (University of Colorado)
Assistant Professor of Medicine, JHEP (1977-1977).

PETERSON, JOHN C., M.D. (University of Florida)
Assistant Professor of Medicine (1978-1978).

PETERSON, LENNART RUDOLPH, Ph.D. (Massachusetts Institute of Technology)
Professor of Physical Sciences and Physics (1967-1978).

PETTWAY, RICHARD H., Ph.D. (University of Texas at Austin)
Professor of Finance (1970-1978).

PETTY, ROY WILLIAM, M.D. (University of Arkansas)
Associate Professor of Orthopaedic Surgery (1975-1979).

PEVONKA, M. PETER, M.S.P.
Associate Professor and Assistant Dean for Clinical Affairs, College of Pharmacy (1973-1979).

PEYTON, LLEWELLYN C., D.V.M. (Colorado State) M.S. (University of Minnesota)
Assistant Professor, Department of Surgical Sciences, College of Veterinary Medicine (1977-1977).

PFAFF, WILLIAM W., M.D. (University of Buffalo)
Professor of Surgery and Director, Transplantation Program, JHMHC (1965-1977).

PFAHLER, PAUL L., Ph.D. (Purdue University)
Professor, (Agronomist), IFAS (1958-1971).

PHILIPS, SANDRA LOUISE, M.A. (Southeastern Louisiana Univ.)
Assistant Professor of Physical Education (1973-1979).

PHILLIPS, RICHARD FREDERICK, M.L.S. (Florida State University)
Assistant Librarian, Catalog Department (1979-1979).

PHILLIPS, RICHARD LEE, Ph.D. (Michigan State University)
Associate Professor, (Associate Extension Horticulturist), IFAS (1964-1972).

PHILLIPS, SHIRLEY, M.S. (University of Kansas)
Instructor, P. K. Yonge Laboratory School (1974-1976).

PICKARD, JOHN BENEDICT, Ph.D. (University of Wisconsin)
Professor of English (1963-1968).

PIECZARKA, DAVID J., Ph.D. (Cornell University)
Assistant Professor (Assistant Plant Pathologist) IFAS Agricultural Research and Education Center, Belle Glade (1977-1977).

PIERCE, FRANK N., Ph.D. (University of Illinois)
Professor of Journalism and Communications (1972-1972).

PIERCE, JAMES ROBERT, J.D. (University of Florida)
Professor of Law (1968-1978).

PIERCE, JO ANN BELL, M.A. (University of Missouri)
Associate Professor, (Associate Editor), IFAS (1974-1978).

PIERCE, ROBERT N., Ph.D. (University of Minnesota)
*Professor of Journalism and Communications (1970-1976).**

PIERCE, ROBERT WILLIAM, JR., Ph.D. (University of Illinois)
Associate Professor of Geology (1969-1974).

PIERINGER, ARTHUR PAUL, Ph.D. (Cornell University)
Associate Professor (Associate Horticulturist), IFAS Agricultural Research and Educational Center, Lake Alfred (1956-1972).

PIERSON, K. KENDALL, M.D. (New York University)
Professor and Chief of Anatomical Pathology, Assistant Dean for Clinical Affairs (1968-1974).

PIOTROWSKI, GEORGE, Ph.D. (Case Western Reserve University)
Associate Professor of Orthopaedic Surgery; Associate Professor of Mechanical Engineering (1969-1976).

PIRKLE, EARL C., Ph.D. (University of Cincinnati)
Professor of Geology and Geography; Director of Physical Sciences Core Program; Associate Chairman, Department of Geography (1950-1979).

PIRKLE, JOAN C., M.A. (West Virginia University)
Instructor, P. K. Yonge Laboratory School (1979-1979).

PISANI, JOSEPH R., Ph.D. (University of Maryland)
*Professor of Journalism and Communications (1973-1977).**

PITTS, JAMES H., Ph.D. (University of Northern Colorado)
Assistant Professor of Counselor Education (1971-1971).

PLANT, CHRISTINE, M.A. (University of South Florida)
Instructor, P. K. Yonge Laboratory School (1974-1976).

PLEASANTS, JULIAN McIVER, Ph.D. (University of North Carolina)
Associate Professor of Social Sciences and History (1969-1979).

PLOWMAN, FAYE T., M.A. (Michigan State University)
Associate Professor (Housing Specialist) Home Economics, IFAS (1972-1977).

PLUTZKY, MAXIMO, M.D. (Havana University)
Professor of Psychiatry (1968-1975).

PLYLER, CRANFORD O., JR., M.D. (George Washington University)
Associate Professor of Community Health and Family Medicine, JHEP (1976-1976).

POHLHAUSEN, KARL, Ph.D. (University of Gottingen)
Professor of Engineering Sciences (1972-1972).

POHRONEZNY, KENNETH LOUIS, Ph.D. (Ohio State University)
Assistant Professor (Assistant Research Scientist), IFAS Agricultural Research and Education Center, Homestead (1976-1976).

POLACK, FRANK M., M.D. (San Marcus University, Peru)
Professor of Ophthalmology (1967-1974).

POLOPOLUS, LEONIDAS, Ph.D. (University of California-Berkeley)
Professor (Economist) and Chairperson, Food and Resource Economics Department, IFAS (1965-1973).

PONIKVAR, CATHERINE A., M.A. (Bowling Green University)
Assistant Director of Housing for Staff and Student Development, Housing (1975-1978).

POOLE, REID, M.A. (University of Chicago)
Professor of Music (1949-1962).

POOLE, RICHARD TURK, Ph.D. (University of Florida)
Professor (Plant Physiologist), IFAS, Agricultural Research Center, Apopka (1961-1975).

POPE, NOLAN FRANK, M.L.S. (Rutger's University)
Head of Systems and Computer Base Operations (1975-1978).

POPENOE, HUGH LLYWELYN, Ph.D. (University of Florida)
Director of International Programs in Agriculture; Director of Center for Tropical Agriculture; Professor of Soils, Geography, Botany, Agronomy; Acting Director of Center for Aquatic Sciences; Director of SUS Sea Grant College.

POPOV, VASILE MIHAI, Ph.D. (Power Institute of the Romanian Academy)
Professor of Mathematics and Electrical Engineering (1972-1973).

POPP, DANIEL M., Ph.D. (University of Chicago)
Associate Professor of German and Scandinavian (1973-1977).

POPPELL, J. EDWARD, B.S. (Florida State University)
Associate Controller (1971-1978).

POPPER, EDWARD T., Ph.D. (Harvard)
Assistant Professor of Marketing (1977-1977).

POP-STOJANOVIC, ZORAN RISTA, Ph.D. (Belgrade)
Associate Chairperson and Professor of Mathematics (1965-1968).

PORRO, BARBARA G., M.A. (University of Florida)
Teacher, P. K. Yonge Laboratory School (1976-1976).

POSNER, PHILIP, Ph.D. (State University of New York)
Associate Professor of Physiology (1972-1977).

POST, DON McKENZIE, M.S.F. (University of Florida)
Associate Professor (Timber Harvesting), IFAS (1951-1976).

POULTON, THOMAS J., M.D., (Ohio State University)
Instructor of Anesthesiology (1979-1979).

POWELL, WILLIAM R., Ed.D. (Indiana University)
Professor of Education (1974-1974).

POZZETTA, GEORGE E., Ph.D. (Univ. of North Carolina)
Associate Professor of Social Sciences and History (1971-1976).

PRESTON, JAMES F., Ph.D. (University of Minnesota)
Associate Professor, Microbiology and Cell Science, IFAS (1969-1975).

PREVIC, EDWARD P., Ph.D. (University of Illinois)
Associate Professor and Acting Chairman of Department, Microbiology and Cell Science, IFAS (1965-1978).

PREVOST, THOMAS A., JR., B.S./B.A. (University of Florida)
Assistant Hospital Director, Planning and Budgeting, Shands Teaching Hospital and Clinics (1971-1978).

PRICE, JAMES F., Ph.D. (Clemson University)
Assistant Professor, (Assistant Entomologist), IFAS, Agricultural Research and Education Center, Bradenton, (1978-1978).

PRICE, JOHN WILBUR, Ph.D. (University of Michigan)
Associate Professor of Humanities (1961-1970).

PRIMACK, ROBERT B., Ed.D. (Rutgers University)
Associate Professor of Education (1966-1973).

PRINE, GORDON MADISON, Ph.D. (Ohio State University)
Professor of Agronomy, IFAS (1958-1979).

PRING, DARYL ROGER, Ph.D. (North Dakota State)
Associate Professor (Associate Plant Pathologist), USDA, IFAS (1971-1971).

PRITCHETT, WILLIAM LAWRENCE, Ph.D. (Iowa State University)
*Professor of Soil Science (Soil Chemistry), IFAS (1948-1953).**

PROBERT, WALTER, S.J.D. (Yale University)
Professor of Law (1959-1960).

PROCHASKA, FREDERICK JAMES, Ph.D. (North Carolina State University)
Professor, Food and Resource Economics, IFAS (1970-1979).

PROCTOR, SAMUEL, Ph.D. (University of Florida)
Distinguished Service Professor of History and Social Sciences; Julien C. Yonge Professor of Florida History; Curator of History, Florida State Museum (1946-1974).

PRUGH, PETER EUGENE, M. Arch. (Harvard)
Assistant Professor of Architecture (1974-1976).

PUEPPKE, STEVEN G., Ph.D. (Cornell University)
Assistant Professor (Assistant Plant Pathologist), IFAS (1979-1979).

PURCIFULL, DAN ELWOOD, Ph.D. (University of California)
Professor (Plant Pathologist), IFAS (1964-1975).

PURDY, BARBARA ANN, Ph.D. (University of Florida)
Associate Professor of Social Sciences and Anthropology, Research Associate, Florida State Museum (1971-1976).

PURDY, LAURENCE HENRY, Ph.D. (University of California)
Professor (Plant Pathologist), IFAS (1967-1979).

PURVIS, ALBERT COLUMBUS, Ph.D. (University of Illinois)
Assistant Professor (Assistant Plant Physiologist), IFAS Agricultural Research and Education Center, Lake Alfred (1977-1977).

PYATT, EDWIN EUGENE, D. Eng. (Johns Hopkins University)
Professor of Environmental Engineering Sciences and Chairman of the Department (1965-1970).

PYE, RUBY LEE, M.A.
Associate Professor of Physical Education (1949-1978).

QUARLES, JAMES C., J.D. (University of Virginia)
Professor of Law (1969-1969).

QUESENBERRY, KENNETH HAYS, Ph.D. (University of Kentucky)
Assitant Professor (Assistant Agronomist), IFAS (1975-1975).

QUINLAN, RAYMOND S., M.D. (Hahnemann Medical College)
Instructor of Obstetrics and Gynecology (1978-1978).

QUINN, SUZANNE LORRAINE, Pharm. D. (Philadelphia College of Pharmacy & Science
Assistant Professor of Pharmacy, (1978-1978).

QUISLING, RONALD C., M.D. (University of Wisconsin)
Assistant Professor of Radiology (1976-1976).

RABELL, ROSA B., M.E. (University of Florida)
Instructor, P. K. Yonge Laboratory School (1966-1970).

RABIN, AVIS, M.A. (Teachers College Columbia University)
Assistant Professor, College of Nursing (1979-1979).

RABINOWICZ, I. MATTHEW, M.D. (Westminster Hospital, London)
Associate Professor of Ophthalmology and Pediatrics (1975-1978).

RADCLIFFE, ROBERT C., Ph.D. (Ohio State University)
Associate Professor of Finance (1971-1976).

RADELET, MICHAEL, Ph.D. (Purdue University)
Assistant Professor of Sociology (1979-1979).

RAMBO, PATRICIA B., B.S. (Florida International University)
Assistant to the President for International Programs (1973-1977).

RAMEY, ROBERT ANCEL, JR., D.Sc. (University of Cincinnati)
Professor of Electrical Engineering; Associate Dean, College of Engineering, Associate Director, Engineering and Industrial Experiment Station (1966-1979).

RAMIREZ, ADOLFO, Ph.D. (University of Wisconsin)
Associate Professor of Spanish (1948-1975).

RAMPHAL, REUBEN, M.D., (McGill University)
Instructor of Medicine (1978-1978).

RAMSEY, ROBIN R., B.S.M.E. (Purdue University)
Director Physical Plant (1978-1979).

RAND, COLLEEN S. W., Ph.D. (Stanford University)
Assistant Professor of Clinical Psychology in Psychiatry (1977-1977).

RAND, KENNETH H., M.D. (Stanford University)
Assistant Professor of Medicine and Pathology (1977-1977).

RANDAZZO, ANTHONY FRANK, Ph.D. (University of North Carolina)
Acting Associate Director, Division of Sponsored Research and Professor of Geology (1967-1979).

RANDOLPH, JOHN, M.Ed. (William and Mary)
Head Track Coach, (1979-1979).

RAO, KOPPAKA V., Ph.D. (University of Wisconsin)
Professor Medicinal Chemistry, College of Pharmacy (1969-1969).

RAO, PALAKURTHI SURESH CHANDRA, Ph.D. (University of Hawaii)
Assistant Professor (Soil Physicist), IFAS, (1979-1979).

RAO, PEJAVER VISHWAMBER, Ph.D. (University of Georgia)
Professor of Statistics (1965-1972).

RASBURY, WILEY C., Ph.D. (Bowling Green State University)
Associate Professor of Clinical Psychology (1971-1977).

RAUSCH, PATRICIA M.S.N. (University of Florida)
Instructor, College of Nursing (1979-1979).

RAY, DELMAS DENNIS, Ph.D. (University of Florida), C.P.A. (Florida)
Professor of Accounting (1948-1962).

RAY, JORDAN BOON, JR., J.D. (University of Florida)
Professor of Business Law (1962-1975).

RAY, ROBERT BEVERLEY, Ph.D. (Indiana University)
Assistant Professor of English (1978-1978).

REAVES, DEBORAH, P., A.B. (Bucknell University)
Assistant in Engineering (1979-1979).

REDDISH, ROBERT LEE, Ph.D. (Texas A & M University)
Professor (Meats Specialist) IFAS (1955-1972).

REED-HILL, ROBERT ELLIS, D.Sc. (Yale University)
*Professor of Materials Science and Engineering (1960-1964).**

REESE, RANDOLPH (Florida State University)
Head Swimming Coach (1976-1976).

REEVES, FRANK BLAIR, M.A. Arch. (University of Florida)
Professor of Architecture (1949-1968).

REGALADO, MANUEL F., M.D. (Havana University)
University Physician (1975-1975).

REGNA, JOSEPH LOUIS, M.A. (New York University)
Associate Professor of Recreation (1961-1976).

REICHARD, CARY LAYNE, Ed.D. (Colorado State University)
Associate Professor of Education (1969-1974).

REID, CHARLES EDWARD, Ph.D. (Louisiana State University)
Associate Professor of Chemistry (1948-1955).

REID, WILLIAM R., Ph.D. (Iowa State University)
Professor of Education (1969-1969).

REINART, JAMES ARNOLD, Ph.D. (Clemson University)
Professor (Entomologist), IFAS, Agricultural Research Center Ft. Lauderdale (1970-1979).

REISKIND, JONATHAN, Ph.D. (Harvard University)
Associate Professor of Zoology (1967-1972).

REITZ, CLAIR D., D.D.S. (University of Pennsylvania)
Professor of Operative Dentistry, College of Dentistry (1976-1976).

REITZ, H. JOSEPH, Ph.D. (Massachusetts Institute of Technology)
Professor of Management (1973-1976).

REITZ, HERMAN J., Ph.D (Ohio State University)
Professor, (Horticulturist), and Center Director, IFAS, AREC and Lake Alfred (1946-1957).

REKERS, GEORGE A., Ph.D. (University of California-Los Angeles)
Associate Professor of Psychology in Psychiatry (1977-1977).

REMSEN, JOYCE F., Ph.D. (Rutgers State University)
Assistant Professor of Biochemistry and Molecular Biology (1977-1977).

RENNER, RICHARD ROY, Ph.D. (University of Texas)
Professor of Education (1965-1971).

RENNERT, HAL H., Ph.D. (University of Washington)
Assistant Professor of German (1979-1979).

RENZ, JAMES HENRY, A.M.L.S.
Associate Director of Libraries (1970-1976).

RESNICK, JAQUELYN LISS, Ph.D. (University of Florida)
Counseling Psychologist, Associate Professor of Counseling Psychology and Counselor Education (1970-1974).

RESNICK, MICHAEL B., Ed.D. (University of Florida)
Assistant Professor of Pediatrics (1976-1978).

RESTER, JAMES HARVEY, M.D. (Louisiana State University)
University Physician (1978-1978).

REXROAT, CYNTHIA, Ph.D. (University of Illinois)
Assistant Professor of Sociology (1979-1979).

REYNOLDS, JOHN EVERETT, Ph.D. (Iowa State University)
Associate Professor, Food and Resource Economics, IFAS (1966-1971).

RHINE, LEONARD, M.L.S. (Queens College)
Assistant Librarian, J. Hillis Miller Health Center Library (1973-1975).

RHOADES, FREDERICK MILTON, Ph.D. (Mississippi State College)
Professor, (Soils Chemist), IFAS, Agricultural Research and Education Center, Quincy (1966-1979).

RHOADES, HARLAN L., Ph.D. (University of Illinois)
Professor (Nematologist), IFAS, Agricultural Research and Education Center, Sanford (1959-1973).

RHOTON, ALBERT L., JR., M.D. (Washington University)
Professor of Surgery and Chief of Neurological Surgery (1972-1973).

RHUE, ROY DEAN, Ph.D. (Oregon State University)
Assistant Professor of Soil Science, (Fertilizer and Lime Technology), IFAS (1977-1977).

RICE, JAMES H., III, B.S. (Oklahoma Panhandle State University)
Major, US Army, Assistant Professor of Military Science (1978-1978).

RICE, PRUDENCE, M., Ph.D. (Pennsylvania State University)
Assistant Professor of Anthropology (1976-1976).

RICH, JIMMY RAY, Ph.D. (University of California, Riverside)
Assistant Professor (Assistant Nematologist), IFAS, Agricultural Research Center, Live Oak (1976-1976).

RICHARD, GEORGE A., M.D. (University of Pittsburgh)
Professor of Pediatrics and Chief of Renal Division (1967-1975).

RICHARDS, PAMELA S., Ph D. (Northwestern University)
Assistant Professor of Sociology (1976-1976).

RICHTER, MICHAEL FRANK, Ph.D. (University of Florida)
Assistant Professor (Assistant Animal Nutritionist) Agricultural Research Center, ONA (1977-1977).

RIENZO, BARBARA ANN, Ph.D. (Southern Illinois University)
Assistant Professor of Health Education (1977-1977).

RIDGDILL, GARY DALE, M.Arch. (Massachusetts Institute of Technology)
Associate Professor of Architecture (1972-1977).

RIDGE, MARGARET BURNS, M.L.S.
Associate Librarian, Catalog (1969-1974).

RIEKERK, HANS, Ph.D. (University of Washington)
Assistant Professor, IFAS (1977-1979).

RIGDON, IMOGENE, M.S.N. (Catholic University)
Assistant Professor, College of Nursing (1977-1978).

RIGGALL, FRANK C., M.D. (West Virginia University)
Assistant Professor of Obstetrics and Gynecology (1976-1977).

RIKER, HAROLD CLARK, Ed.D. (Columbia University)
Professor of Education (1938-1971).

RING, WADE, M.Ed. (University of Georgia)
Instructor, P. K. Yonge Laboratory School (1958-1962).

RION, WILLIAM E., M.A.
*Director of J. Wayne Reitz Union (1945-1948).**

RITTER, GERHARD X., Ph.D. (University of Wisconsin)
Associate Professor of Mathematics (1971-1976).

RITTER, GRANT ALDEN, Ph.D. (Cornell University)
Assistant Professor of Mathematics (1976-1976).

RIZZI, ANTHONY J., M.P.A. (New York University)
Assistant Director of University Hospital, Billing and Collections, Shands Teaching Hospital, (1978-1979).

ROAN, VERNON PARKER, Ph.D. (University of Illinois)
Professor of Mechanical Engineering (1966-1973).

ROBBINS, CHARLES LEWIS, M.S. (Iowa State University)
Assistant Professor and Associate Chairperson, Department of Sociology (1956-1976).

ROBBINS, MARILYN J., B.S. (Iowa State University)
Associate in Psychiatry (1970-1973).

ROBBINS, RALPH COMPTON, Ph.D. (University of Illinois)
*Associate Professor (Associate Human Nutritionist), IFAS, (1959-1966).**

ROBERTS, BENJAMIN J., Ph.D. (Pennsylvania State University)
Assistant Professor of Psychology (1977-1977).

ROBERTS, DALE L., M.R.C. (University of Florida)
Clinical Instructor of Rehabilitation Counseling (1978-1978).

ROBERTS, DANIEL ALTMAN, Ph.D. (Cornell University)
Professor of Plant Pathology, IFAS (1959-1964).

ROBERTS, LEONIDAS HOWARD, Ph.D. (University of Florida)
Professor of Physical Sciences and Astronomy; Adviser (1949-1971).

ROBERTS, ROBERT MICHAEL, Ph.D. (Oxford University)
Professor of Biochemistry and Molecular Biology (1970-1978).

ROBERTSON, MARY F., M.A. (University of Toronto)
Associate in Psychiatry (1970-1970).

ROBERTSON, WILLIAM KITCHENER, Ph.D. (Purdue University)
Professor of Soil Science (Soil Chemistry), IFAS (1950-1965).

ROBINSON, DAVID H., Ph.D. (University of Iowa)
Assistant Professor of Statistics (1979-1979).

ROBINSON, FRANK ALBERT, M.S. (Auburn University)
Professor (Apiculturist), IFAS (1950-1973).

ROBINSON, JAMES DANIEL, Pharm. D. (University of Cincinnati)
Assistant Professor of Pharmacy (1977-1977).

ROBINSON, WILLIAM RONALD, Ph.D. (Ohio State University)
Professor of English (1967-1971).

ROCKWELL, THEO B., M.L.S. (Long Island University)
Assistant Law Librarian (1978-1978).

ROCKWOOD, DONALD L., Ph.D. (North Carolina State University)
Assistant Professor, (Forest Geneticist), IFAS (1974-1975).

ROCKWOOD, WILLIAM PECK, M.A. (Johns Hopkins University)
Coordinator, Division of Continuing Education (1973-1973).

RODEHEAVER, JANET LITTLE, M.Ed. (University of Florida)
Assistant Professor of Medical Technology (1961-1967).

RODGERS, BRADLEY M., M.D. (Johns Hopkins University)
Professor of Surgery and Pediatrics (1974-1979).

RODGERS, EARL GILBERT, Ph.D. (Iowa State University)
Professor of Agronomy, IFAS (1946-1959).

ROESSLER, CHARLES E., Ph.D. (University of Florida)
Professor of Environmental Engineering Sciences (1967-1979).

ROESSLER, GENEVIEVE S., Ph.D. (University of Florida)
Assistant Professor of Nuclear Engineering Sciences (1973-1975).

ROLLO, JAMES M., Ed.S. (University of Florida)
Coordinator of Family Housing Programs, Housing (1979-1979).

ROMRELL, LYNN J., Ph.D. (Utah State University)
Associate Professor, Department of Anatomy, College of Medicine (1975-1979).

RONK, STERLING L., D.D.S., M.S. (Marshall University)
Assistant Professor of Pediatric Dentistry, College of Dentistry (1977-1977).

ROOKS, EVELYN ANN, M.H.E.
Assistant Professor (Extension Human Development Specialist) IFAS (1969-1969).

ROOSENRAAD, JON A., Ph.D. (Florida State University)
*Associate Professor of Journalism and Communications and Chairperson, Department of Journalism (1968-1977).**

ROQUE, JUAN L., M.D. (University of Sevilla Medical School)
Associate Professor of Medicine, JHEP (1973-1978).

ROSALSKY, ANDREW JAMES, Ph.D. (Rutgers University)
Assistant Professor of Statistics (1978-1978).

ROSENBAUM, WALTER, A., Ph.D. (Princeton University)
*Professor of Political Science (1961-1975).**

ROSENBLOOM, ARLAN L., M.D. (University of Wisconsin)
Professor of Pediatrics and Director of Diabetes Research Center (1968-1974).

ROSENSHEIN, JOSEPH S., Ph.D. (Massachusetts Institute of Technology)
*Director of Pre-Professional Education and Lecturer in Physics (1966-1974).**

ROSENSTIEL, STEPHEN F., M.S.D. (Indiana University)
Assistant Professor of Occlusion and Fixed Prosthodontics, College of Dentistry (1977-1977).

ROSS, CLAUDIUS ALLEN, Ph.D. (University of Florida)
Professor of Engineering Sciences, Eglin AFB (1958-1976).

ROSS, DORENE D., Ed.D. (Virginia University)
Assistant Professor of Education (1979-1979).

ROSS, JOHN J., M.D. (Harvard University)
Professor of Pediatrics and Neurology (1965-1974).

ROSS, LAFAYE V., M.A. (Valdosta State)
Instructor, P. K. Yonge Laboratory School (1978-1978).

ROSS, MICHAEL H., Ph.D. (New York University)
Professor and Chairperson, Department of Anatomy (1971-1977).

ROSS, WARREN E., M.D. (University of Florida)
Assistant Professor of Medicine (1978-1978).

ROTHMAN, HOWARD BARRY, Ph.D. (Stanford University)
Associate Professor of Speech (1969-1976).

ROTHWELL, DONALD FREDERICK, Ph.D. (Purdue University)
Professor of Soil Science (Soil Microbiology), IFAS (1948-1971).

ROVINSKY, TONY, P.A. (University of Florida)
Director and Associate in Medicine, Shands Teaching Hospital and Clinics (1974-1978).

ROW, ANDREW WILLIAM, M.A. (University of Michigan)
Instructor in Mathematics (1958-1958).

ROWE, KATHERINE T., B.S.P.
Assistant in Pharmacy (1979-1979).

ROWE, MARY BUDD, Ph.D. (Stanford University)
Professor of Education (1972-1974).

RUBIN, MELVIN L., M.D. (University of California)
Professor and Chairman of Ophthalmology Center, and Director of Resident Training Program (1963-1978).

RUBIN, STEPHEN, J.D. (Columbia University)
Professor of Law (1972-1977).

RUELKE, OTTO CHARLES, Ph.D. (University of Wisconsin)
Professor of Agronomy, IFAS (1955-1969).

RUFFIN, WILLIAM CAIN, JR., M.D. (University of North Carolina)
Professor of Psychiatry and Chief of Staff, STH (1959-1979).

RUIZ, NATHAN CHARLES, M.A. (Sacramento State University)
Assistant Professor in Art (1973-1976).

RUMBERGER, GERARD D., D.M.D. (University of Florida)
Assistant Professor of Oral Medicine, College of Dentistry (1979-1979).

RUMBLE, JAMES DOUGLAS, M.S.M.E. (Rensselaer Polytechnic Institute)
Associate Professor of Civil Engineering (1975-1975).

RUMMEL, RAYMOND ALFRED, B.S.
Associate Professor of Materials Science and Engineering (1959-1979).

RUSHEFSKY, MARK E., Ph.D. (State University of New York, Binghamton)
Assistant Professor of Political Science (1978-1978).

RUSSELL, WAYNE L., Pharm. D. (University of Florida)
Assistant in Pharmacy (1979-1979).

RUTH, BYRON EDWARD, Ph.D. (West Virginia University)
Professor of Civil Engineering (1970-1977).

RUTLEDGE, JOHN ANDREW, Ed.D. (North Carolina State University)
Assistant Professor (Extension 4-H Youth Specialist), IFAS (1979-1979).

RYAN, MARY PATRICIA, M.A.
Assistant Professor of Physical Education (1969-1969).

RYDEN, SALLY E., M.D. (University of Michigan)
Assistant Professor of Pathology, Medical Director of Blood Bank (1976-1976).

RYERSON, EUGENE G., M.D. (New Jersey Medical School)
Assistant Professor of Medicine (1979-1979).

RYSCHKEWITSCH, GEORGE EUGENE, Ph.D. (Ohio State University)
Professor of Chemistry (1959-1965).

SABATELLA, JOSEPH J., M.F.A. (University of Illinois)
Dean, College of Fine Arts and Professor of Art (1959-1975).

SABIN, JOHN R., Ph.D. (University of New Hampshire)
Professor of Physics and Chemistry (1970-1977).

SAGA-RUMLEY, SEGUNDINA A., M.D. (University of Philippines)
Assistant Professor of Anesthesiology, VAH (1973-1973).

SAILER, REECE I., Ph.D. (Kansas University)
Graduate Research Professor, Entomology and Nematology Department, IFAS (1973-1973).

SAMUEL, JOHN ALTON, M.S.E. (University of Florida)
Associate Professor of Mechanical Engineering (1954-1967).

SAND, ROBERT SHERMAN, Ph.D. (University of Kentucky)
Associate Professor, (Associate Animal Husbandman), IFAS (1971-1977).

SANDEEN, C. ARTHUR, Ph.D. (Michigan State University)
Vice President for Student Affairs & Professor of Education (1973-1973).

SANDERS, LINDA W., M.A. Arch. (University of Florida)
Assistant Professor of Architecture (1974-1975).

SANDERS, WILLIE, B.S.E. (University of Florida)
Associate Professor of Anatomy and Occupational Therapy and Director of State Anatomical Board and Office of Minority Relations (1968-1979).

SANDERSON, JOHN ALLEN, M.U.P. (Wayne State University)
Associate Professor of Landscape Architecture (1969-1974).

SANDERSON, STEVEN E., Ph.D. (Stanford University)
Assistant Professor of Political Science (1979-1979).

SANDOR, GEORGE NASON, E. Eng. Sc. (Columbia University)
Research Professor of Mechanical Engineering (1976-1976).

SARRETT, DAVID C., D.M.D. (University of Florida)
Assistant Professor of Operative Dentistry, College or Dentistry (1978-1979).

SARTAIN, JERRY B., Ph.D. (North Carolina State University)
Associate Professor (Soil Fertility), IFAS (1974-1979).

SAULS, JULIAN W., Ph.D. (University of Florida)
Assistant Professor (Assistant Extension Citriculturist), IFAS (1975-1975).

SAUNDERS, SCOTT G., Ph.D. (Johns Hopkins University)
Assistant Professor of Economics (1974-1974).

SAVITT, TODD L., Ph.D. (University of Virginia)
Assistant Professor of Community Health and Family Medicine (1976-1976).

SAW, JOHN GREENVILLE, Ph.D. (University of London)
Professor of Statistics (1965-1969).

SAXON, JOHN P., Ph.D. (University of Georgia)
Associate Professor of Rehabilitation Counseling (1971-1976).

SAXON, STEPHEN APPOLLOS, Ph.D. (Florida State University)
Associate Professor of Mathematics (1969-1975).

SCARRATT, WILLIAM K., D.V.M. (University of Saskatchewan)
Assistant Professor, Department of Medical Sciences, College of Veterinary Medicine (1978-1978).

SCHAEPER, HERBERT, R.A. Ph.D. (University of Florida)
Assistant Professor of Geography and Physical Sciences (1979-1979).

SCHAER, MICHAEL, D.V.M. (University of Illinois)
Associate Professor, Department of Medical Sciences, College of Veterinary Medicine (1979-1979).

SCHAFFER, GERALD, B.S.B.A. (University of Tampa)
Assistant Vice President for Administrative Affairs (1964-1978).

SCHANK, STANLEY COX, Ph.D. (University of California)
Professor of Agronomy (1961-1973).

SCHAUB, JAMES HAMILTON, Ph.D. (Purdue University)
*Professor of Civil Engineering and Chairperson of the Department (1969-1969).**

SCHAUBLE, PAUL G., Ph.D. (Michigan State University)
Counseling Psychologist. University Counseling Center, Professor of Psychology, Counselor Education and Behavioral Studies (1970-1975).

SCHEAFFER, RICHARD LEWIS, Ph.D. (Florida State University)
Chairperson and Professor, Statistics Department (1967-1977).

SCHEFFER, GEORGE, M.A. Arch. (University of Florida)
Associate Professor of Architecture (1969-1977).

SCHENCK, NORMAN CARL, Ph.D. (University of Illinois)
Professor (Plant Pathologist), IFAS (1956-1968).

SCHENKER, PAMELA S., M.S. (University of Florida)
Assistant in Research, Bureau of Economic and Business Research (1979-1979).

SCHER, RICHARD KING, Ph.D. (Columbia University)
Associate Professor of Social Sciences and Political Science (1972-1977).

SCHIEBLER, GEROLD LUDWIG, M.D. (Harvard Medical School)
Professor and Chairperson, Department of Pediatrics (1960-1968).

SCHLENKER, BARRY R., Ph.D. (State University of New York at Albany)
Associate Professor of Psychology (1972-1976).

SCHMELING, GARETH L., Ph.D. (University of Wisconsin)
Professor and Chairman of Classics, Director of the Center for Studies in the Humanities (1970-1975).

SCHMID, GERHARD MARTIN, Ph.D. (Innsbruck University)
Associate Professor of Chemistry and Assistant Chairperson of Department of Chemistry (1964-1974).

SCHMID, REX E., Ed.D. (University of Virginia)
Associate Professor of Special Education (1976-1979).

SCHMIDT, PATRICIA LOIS, Ph.D. (Pennsylvania State)
Acting Assistant Director, Division of Sponsored Research and Associate Professor of Behavioral Studies and English (1973-1979).

SCHMIDT, ROBERT ALLEN, Ph.D. (Pennsylvania State University)
Associate Professor and Assistant Director (Forest Patholgist), IFAS (1967-1978).

SCHMIDT, RONALD H., Ph.D. (University of Minnesota)
Associate Professor, (Associate Chemist), IFAS (1974-1979).

SCHMITT, JOHN, Ph.D. (University of Florida)
Visiting Assistant Professor of Allied Health Programs (1979-1979).

SCHNEIDER, RICHARD HAROLD, M.A. (University of Florida)
Acting Assistant Director of Bureau of Research (1973-1974).

SCHNEIDER, RICHARD THEODOR, Dr. Rer Nat. (Technical University of Stuttgart, Germany)
*Professor of Nuclear Engineering Sciences (1965-1968).**

SCHOENAU, RONALD HELMUTH, B.S (University of Florida)
Director, NERDC (1962-1973)

SCHOESSOW, GLEN JOHN, M.S.M.E.
Professor of Nuclear Engineering Sciences (1958-1958).

SCHOLES, ROBERT JAMES, Ph.D. (University of Indiana)
Professor of Speech and Linguistics (1966-1976).

SCHRAMM, HAROLD L., JR., Ph.D. (Southern Illinois University)
Assistant Professor, IFAS (1979-1979).

SCHRODER, VINCENT NILS, Ph.D. (Duke University)
Associate Professor of Agronomy, IFAS (1955-1969).

SCHULKIND, MARTIN LEWIS, M.D. (University of Chicago)
Associate Professor of Pediatrics and Community Health and Family Medicine (1965-1972).

SCHULMAN, IVAN A., Ph.D. (University of California at Los Angeles)
Graduate Research Professor of Latin American Literature, and Director of the Center for Latin American Studies (1973-1977).

SCHULMAN, STEPHEN GREGORY, Ph.D. (University of Arizona)
Professor of Medicinal Chemistry (1970-1977).

SCHULTETUS, RAYMOND, R., M.D. (University of Kentucky)
Visiting Instructor of Anesthesiology (1979-1979).

SCHUNCKE, GEORGE M., Ph.D. (Stanford University)
Assistant Professor of Education (1974-1974).

SCHUSTER, DAVID JAMES, Ph.D. (Oklahoma State University)
Assistant Professor (Assistant Entomologist), IFAS, Agricultural Research and Education Center, Bradenton (1975-1975).

SCHUTTE, OFELIA M., Ph.D. (Yale University)
Assistant Professor of Philosophy (1978-1978).

SCHWARTZ, J. MICHAEL, Ph.D. (Cornell University)
Assistant Professor of Behavioral Studies and Sociology (1973-1973).

SCHWARTZ, MICHAEL AVERILL, Ph.D. (University of Wisconsin)
Professor and Dean, College of Pharmacy (1978-1978).

SCHWARTZ, STUART ELLIS, Ed.D (University of Kansas)
Associate Professor of Education (1974-1979).

SCHWASSMANN, HORST O., Ph.D (University of Wisconsin)
Professor of Zoology (1972-1978).

SCHWEIDER, THEODORE L., B.A. (University of Miami)
Major, U.S. Army, Assistant Professor of Military Science (1977-1977).

SCIADINI, FRANK, M.A. (University of Florida)
Assistant Professor of English Adviser, (1960-1965).

SCORNIK, JUAN C., M.D. (University of La Plata)
Assistant Professor of Pathology (1976-1976).

SCORZA, RALPH, Ph.D. (Purdue University)
Assistant Research Scientist, International Programs, IFAS Bolivia, (1979-1979).

SCOTT, BERNICE S., Ed.D. (Columbia University)
Visiting Assistant Professor of Allied Health Program (1972-1979).

SCOTT, ELOIS SKEEN, Ph.D. (University of Michigan)
Assistant Professor, Office of Instructional Resources (1977-1977).

SCOTT, JERRIE C., Ph.D. (University of Michigan)
Assistant Professor of English (1977-1977).

SCOTT, KATHERINE NASFAY, Ph.D (University of Florida)
Associate Professor of Radiology, VAH (1968-1977).

SCOTT, MARY WILLINGHAM, M.S. (North Carolina State, Raleigh)
Assistant in Mathematics (1977-1978).

SCOTT, RICHARD R., Ph.D. (Harvard)
Assistant Professor of Psychology (1976-1976).

SCOTT, ROBERT TAYLOR, Ph.D. (Duke University)
Assistant Professor of Religion (1971-1971).

SCOTT, THOMAS McDONALD, M.A.E.
Associate Professor of Physical Education (1949-1977).

SCROGGIE, EVERETT, JR., M.A.
Assistant Professor of Communicative Disorders (1966-1968).

SCRUGGS, WILLIAM MARTIN, JR., M.Ed. (University of Florida)
Coordinator, Department of Extended Services, Division of Continuing Education (1968-1968).

SCUDDER, WALTER TREDWELL, Ph.D. (Cornell University)
Professor (Horticulturist) IFAS, Agricultural Research and Education Center, Sanford (1955-1968).

SCULLY, GERRIE L., M.S.N. (University of California)
Assistant Professor, College of Nursing (1977-1979).

SCHUTTE, OFELIA M., Ph D. (Yale University)
Assistant Professor of Humanities and Philosophy (1978-1979).

SEAMAN, WILLIAM, Ph.D (University of Florida)
Assistant Professor of Forestry, Assistant Director of SUS SEA Grant College (1971-1972).

SEILER, GARY D., Ed.D. (University of Massachusetts)
Assistant Professor of Education (1974-1975).

SELBY, JOHN H., JR., M.D. (University of Texas Southwestern)
Assistant Professor of Surgery, VAH (1977-1977).

SELF, MORRIS, WALDT, Ph.D. (University of Minnesota)
Professor of Civil Engineering (1966-1966).

SELFRIDGE, RALPH B., Ph.D. (University of Oregon)
Professor of Computer and Information Sciences, College of Engineering (1961-1965).

SELMAN, KELLY E., Ph.D. (Harvard University)
Associate Professor of Anatomy (1974-1979).

SENIOR, DAVID F., B.V.S.C. (University of Melbourne)
Assistant Professor, Department of Medical Sciences, College of Veterinary Medicine (1979-1979).

SENTERFITT, VERNON, Ph.D. (University of Florida)
Director, Teaching Laboratory Resources, J. Hillis Miller Health Center (1968-1974).

SETZER, EMMALEE, M.D. (University of Alabama)
Assistant Professor of Pediatrics (1978-1978).

SEVERY, LAWRENCE J., Ph.D. (University of Colorado)
Associate Professor of Psychology (1971-1975).

SHAAK, CRAIG D., Ph.D. (University of Pittsburgh)
Assistant Curator of Invertebrate Paleontology, Associate In Museum Administration; Florida State Museum, Joint Assistant Professor of Zoology, Geology, and Latin American Studies (1972-1979).

SHAARA, RICHARD BENSON, M.D. (University of Texas)
Director, Student Health Service (1969-1974).

SHAFFER, CHARLES VERNON, Ph.D. (Stanford University)
Professor of Electrical Engineering (1946-1966).

SHAH, DINESH O., Ph.D. (Columbia University)
Professor of Anesthesiology and Chemical Engineering (1970-1975).

SHANDS, JOSEPH W., JR., M.D. (Duke University)
Professor of Medicine, Chief, Division of Infectious Diseases; Professor of Medical Microbiology and Immunology (1961-1970).

SHANOR, LELAND, Ph.D. (University of North Carolina) D.Sc. (Illinois Wesleyan University)
Professor of Botany (1965-1965).

SHARP, BERT LAVON, Ed.D. (University of Florida)
*Professor of Education (1963-1969).**

SHARP, DANIEL COMPTON, III, Ph.D. (University of Massachusetts)
Associate Professor, (Associate Physiologist), IFAS (1973-1978).

SHAW, HARRY, Ph.D. (University of Illinois)
Associate Dean of the College of Liberal Arts and Sciences, and Associate Professor of English (1973-1977).

SHAW, LAWRENCE NEIL, Ph.D. (Ohio State)
Professor (Agricultural Engineer), IFAS (1969-1979).

SHAW, LELAND G., M. Arch. (University of California)
Professor of Architecture (1964-1976).

SHAW, MARVIN EVERT, Ph.D. (University of Wisconsin)
Professor of Psychology (1959-1962).

SHEA, JOSEPH J., Ph.D. (University of Michigan)
Associate Professor in Education (1967-1971).

SHEEHAN, THOMAS JOHN, Ph.D. (Cornell University)
Professor (Ornamental Horticulturist), IFAS (1954-1967).

SHELTON, DAVID LESLIE, Ph.D. (University of Missouri)
Associate Professor of Theatre (1974-1979).

SHEMDIN, OMAR H., Ph.D. (Stanford University)
Professor of Coastal and Oceanographic Engineering, Professor of Engineering Sciences (1967-1974).

SHEN, CHIAYI, Ph.D. (University of Cincinnati)
Assistant Professor of Dental Biomaterials, College of Dentistry (1979-1979).

SHENKMAN, FREDERICK ALAN, Ed.D. (University of Florida)
Assistant Professor of Criminal Justice (1969-1971).

SHEPPARD, DONALD MAX, Ph.D. (Arizona State University)
Associate Professor of Coastal and Oceanographic Engineering and Acting Chairman of Coastal and Oceanographic Engineering (1968-1978).

SHERIDAN, ANNA L., M.HRM. (Pepperdine University)
Lieutenant Commander, U.S. Navy, Assistant Professor of Naval Science (1980-1980).

SHERMAN, ROBERT R., Ed.D. (Rutgers University)
Professor and Chairperson of Education Foundations (1967-1977).

SHERMAN, WAYNE BUSH, Ph.D. (Purdue University)
Professor (Horticulturist), IFAS (1966-1978).

SHIELDS, DOROTHY ANN, M.Ed.
Associate Professor of Physical Education (1962-1975).

SHIELDS, ROBERT P., D V.M. (Auburn) Ph.D. (Michigan State)
Associate Professor and Acting Director, Division of Comparative Pathology College of Veterinary Medicine (1973-1979).

SHIH, JULIE WEN-FU, P., M.S. (North Carolina State University)
Assistant in Research, Bureau of Economic and Business Research (1979-1979).

SHIH, SUN-FU, Ph.D. (North Carolina State University)
Associate Professor (Associate Agricultural Engineer), IFAS, Agricultural Research and Education Center, Belle Glade (1976-1976).

SHILLE, VICTOR M., D.V.M., Ph.D. (University of California at Davis)
Associate Professor, Department of Reproduction, College of Veterinary Medicine (1978-1978).

SHIREMAN, JEROME VERN, Ph.D. (Iowa State University)
Associate Professor (Fisheries Science), IFAS (1973-1977).

SHIRLEY, RAY LOUIS, Ph.D. (Michigan State)
Professor of Animal Science (Animal Nutritionist) IFAS (1949-1953).

SHIVERICK, KATHLEEN T., Ph.D., (University of Vermont)
Assistant Professor of Pharmacology and Therapeutics (1978-1978).

SHOKES, FREDERICK MILTON, Ph.D. (University of Georgia)
Assistant Professor, (Assistant Plant Pathologist), IFAS, Agricultural Research and Education Center, Quincy (1978-1978).

SHONKWILER, J. SCOTT, Ph.D. (University of Missouri)
Assistant Professor, Food and Resource Economics, IFAS, (1979-1979).

SHORT, DONALD EUGENE, Ph.D. (University of Nebraska)
Associate Professor (Associate Entomologist), IFAS (1970-1975).

SHOWALTER, ROBERT KENNETH, M.S. (Purdue University)
Professor (Horticulturist), IFAS (1945-1956).

SHREVE, WILLIAM B., JR., D.D.S. (Case Western Reserve Univ.)
Associate Dean and Associate Professor of Basic Dental Sciences, College of Dentistry (1975-1978).

SHUMAKER, JAMES R., Ph.D. (University of Minnesota)
Associate Professor (Associate Horticulturist), IFAS, Agricultural Research Center, Hastings (1967-1973).

SHUSTER, JONATHAN J., Ph.D. (McGill University)
Associate Professor of Statistics (1969-1974).

SIDERS, MARY B., M.A. (Ball State Univ.)
Instructor, P. K. Yonge (1975-1979)

SIDERS, RONALD ALLEN, Ph.D. (University of Oregon)
Assistant Professor of Professional Physical Education (1974-1974).

SIDMAN, CHARLES F., Ph.D. (Wisconsin University)
Dean, College of Liberal Arts and Sciences and Professor of History (1978-1978).

SIEG, KAY W., M.Ed. (University of Florida)
Associate Professor of Occupational Therapy (1971-1976).

SIERAKOWSKI, ROBERT L., Dr. Eng. (Yale University)
Professor of Engineering Sciences (1967-1973).

SIGMON, KERMIT N., Ph.D. (University of Florida)
Associate Professor of Mathematics (1966-1978).

SILVERMAN, DAVID N., Ph.D. (Columbia University)
Associate Professor of Pharmacology and Therapeutics (1971-1976).

SILVERSTEIN, JANET H., M.D. (University of Pennsylvania)
Instructor of Community Health and Family Medicine (1978-1978).

SIMMONS, JOHN K., Ph.D. (Ohio State University) C.P.A. (Kansas)
Professor of Accounting and Director of School of Accounting (1974-1974).

SIMMONS, WILLIE J., M.S. (Indiana University)
Director, Institute of Black Culture (1975-1975).

SIMON, THOMAS W., Ph.D. (Washington University)
Associate Professor of Philosophy (1973-1979).

SIMONE, GARY W., Ph.D. (University of Illinois)
Assistant Professor of Plant Pathology, IFAS (1977-1977).

SIMPKINS, JAMES WILLIAM, Ph.D. (Michigan State University)
Assistant Professor of Pharmacy (1977-1977).

SIMPSON, CHARLES FLOYD, D.V.M. (Cornell University), Ph.D. (University of Minnesota)
Assistant Dean for Research and Professor (Pathologist), College of Veterinary Medicine, Department of Preventive Medicine, IFAS (1948-1973).

SIMPSON, JAMES R., Ph D. (Texas A & M University)
Associate Professor (Livestock Marketing), Food & Resource Economics, IFAS (1977-1977).

SIMRING, MARVIN, D.D.S. (New York University)
Associate Professor of Periodontics, College of Dentistry (1979-1979).

SINGERMAN, ROBERT, M.A. (Xavier University)
Associate Librarian, Judaica Library (1979-1979).

SINGLETON, GEORGE T., M.D. (Baylor University)
Professor of Surgery and Chief of Otolaryngology, VAH (1961-1977).

SINGLEY, J. EDWARD, Ph.D. (University of Florida)
Professor of Environmental Engineering Sciences and Director of Center for Training Research and Education for Environmental Occupations (1967-1978).

SISLER, HARRY HALL, Ph.D. (University of Illinois)
Distinguished Service Professor of Chemistry (1956-1979).

SIVAZLIAN, BOGHOS D., Ph.D. (Case Institute of Technology)
Professor of Industrial and Systems Engineering (1966-1972).

SKELLEY, ROBERT CHARLES, M.F.A (Indiana University)
Professor of Art (1962-1978).

SKORHEIM, MARY A., M.A. (University of North Dakota)
Assistant Dean for Student Services (1979-1979)

SLAYMAKER, CAROLYN J., M.A. (New York University)
*Associate Professor of Occupational Therapy (1966-1975).**

SLEDJESKI, STEPHEN S., Ph.D. (University of Florida)
Assistant Professor, P. K. Yonge (1975-1975).

SMAJSTRLA, ALLEN GEORGE, Ph.D. (Texas A & M University)
Assistant Professor (Assistant Agricultural Engineer), IFAS (1977-1977)

SMALL, PARKER ADAMS, JR., M.D. (University of Cincinnati)
Professor of Immunology and Medical Microbiology (1966-1966)

SMALL, TERENCE SAMUEL, M.A. (Western Reserve University)
Professor of Music (1964-1975).

SMART, GROVER C., JR., Ph.D. (University of Wisconsin)
Professor (Nematologist) and Acting Department Chairman, IFAS (1964-1979)

SMERAGE, GLEN HUNTINGTON, Ph.D. (Stanford University)
Associate Professor (Associate Agricultural Engineer), IFAS (1976-1976).

SMEYAK, GERALD P., Ph.D. (Ohio State University)
Professor of Journalism and Communications and Chairperson, Department of Broadcasting (1978-1978).

SMITH, ALBERT B., Ph.D. (University of North Carolina)
Professor of Romance Languages (1963-1977)

SMITH, ALBERT BARNES, III, Ph.D. (University of Michigan)
Associate Professor of Education (1970-1975).

SMITH, ALEXANDER GOUDY, Ph D (Duke University)
Professor of Astronomy and Physics (1948-1956).

SMITH, CECIL NUCKOLS, Ph.D. (University of California)
*Professor, Food and Resource Economics Department, IFAS (1952-1963).**

SMITH, DAVID C., Ph.D. (North Western University)
Dean and Professor of Education (1978-1978)

SMITH, DAVID THORNTON, J.D (Boston University)
Professor of Law (1968-1969).

SMITH, DOUGLAS LEE, Ph.D. (University of Minnesota)
Associate Professor of Geology (1972-1976).

SMITH, EMMETT DAN, Ph.D. (Ohio State University)
Associate Professor of Accounting (1970-1976).

SMITH, GREGORY E., D.D.S., M.S.D (University of Washington)
Professor and Chairman of Operative Dentistry, College of Dentistry (1979-1979).

SMITH, HALBERT C., D B.A. (University of Illinois)
Professor of Real Estate and Urban Analysis (1971-1971).

SMITH, HAYWOOD CLARK, Jr., Ph.D. (University of Virginia)
Associate Professor of Astronomy (1979-1979).

SMITH, HERRICK HAYNER, M.S., M.L.A. (University of Georgia)
Program Director and Professor of Landscape Architecture (1966-1971)

SMITH, JACK REGINALD, Ph.D (University of Southern California)
Professor of Electrical Engineering and Psychiatry (1964-1970).

SMITH, JO ANNE, M.A.
*Professor of Journalism and Communications (1959-1976).**

SMITH, JULIAN, M.A (Tulane University)
Associate Professor of English (1977-1977).

SMITH, KENNTH L., Ph.D. (University of Missouri)
Associate Professor (Microbiologist), and Associate Professor, Microbiology and Cell Science, IFAS (1960-1966).

SMITH, LAWRENCE L., Ph.D. (University of Illinois)
Assistant Professor (1974-1974)

SMITH, MILDRED F., Ph D (University of Maryland)
Assistant Professor and Extension Program Specialist IFAS (1977-1979).

SMITH, NAN S., M.F.A (Ohio State University)
Assistant Professor of Art (1979-1979)

SMITH, PAUL H., Ph.D. (University of California)
Professor, Microbiology and Cell Science, IFAS (1959-1979).

SMITH, REX LANEL, Ph.D (Iowa State University)
Professor, (Agronomist), IFAS (1968-1978).

SMITH, RICHARD CLARK, Ph.D. (Duke University)
Professor of Botany, Arts and Sciences (1964-1977)

SMITH, RICHARD T., M.D. (Tulane University)
Professor and Chairman, Department of Pathology and Director of the C.V. Whitney Marineland Laboratory (1958-1967).

SMITH, ROBERTS COLES, Jr., B.A. (University of Florida)
Assistant Professor (Assistant Editor), IFAS (1961-1961).

SMITH, STANLEY K., Ph. D. (University of Michigan)
Assistant Professor of Economics; Assistant Professor, Bureau of Economic and Business Research (1976-1976).

SMITH, W. MARTIN Jr., B.A. (Marshall University)
Professional Insurance Coordinator, J. Hillis Miller Health Center Liability Trust Fund (1975-1976).

SMITH, WAYNE H., Ph.D. (Mississippi State University)
Professor and Director, Environmental and Natural Resource Programs (1964-1978).

SMITH, WILLIAM HOWARD, P.Ed. (Louisiana State University)
Associate Professor, Extension District Agent, IFAS (1958-1971).

SMUTZ, MORTON, Ph.D. (University of Wisconsin)
Professor of Chemical Engineering (1969-1979).

SNIDER, M. JOSEPHINE, Ed.D. (Univesity of Florida)
Coordinator, R.N. Program and Associate Professor, College of Nursing (1965-1979).

SNODGRASS, CHRIS G., Ph.D. (State University of New York at Buffalo)
Associate Professor of English (1973-1978).

SNOWBALL, DOUGLAS A. T., Ph.D. (University of Washington)
Assistant Professor of Accounting (1975-1975).

SNYDER, DAVID M., M.B.A. (Cornell University)
Assistant Hospital Director, Support Services, Shands Teaching Hospital & Clinics (1977-1977).

SNYDER, GEORGE H., Ph.D. (Ohio State University)
Professor (Soils Chemist), IFAS, Agricultural Research and Education Center, Belle Glade (1967-1979).

SOAR, ROBERT STEPHEN, Ph.D. (University of Minnesota)
Professor of Education (1966-1966).

SOARES, GLAUCIO ARY DILLON, Ph.D. (Wash. Univ., St. Louis)
Professor of Latin American Studies and Sociology (1974-1975).

SOFTLEY, DONALD A., Ph.D. (University of Michigan)
Assistant Professor of History and Social Sciences (1977-1977).

SOLER, GLADYS P., M.D. (University of Havana)
Assistant Professor of Pediatrics (JHEP) (1971-1974).

SOLIS, MANUEL MAVRICIO, M.S. (University of Florida)
Associate Professor or Architecture (1969-1975).

SOLOMON, MIKIL, M.A. (University of Florida)
Instructor, P. K. Yonge Laboratory School (1929-1979).

SOMMERVILLE, C. JOHN, Ph.D. (University of Iowa)
Associate Professor of History (1971-1977).

SONODA, RONALD MASAHIRO, Ph.D. (University of California)
Associate Professor (Associate Plant Pathologist), IFAS, Agricultural Research Center, Ft. Pierce (1969-1974).

SOONG, JOHN, M.D., (University of College Hospital of the West Indies)
Instructor of Radiology (1979-1979).

SOULE, JAMES, Ph.D. (University of Florida)
Professor and Assistant Chairman of Fruit Crops (Horticulturist), IFAS (1956-1967).

SPANGLER, BYRON DEMENT, M.S.E. (University of Florida)
Professor of Civil Engineering (1949-1971).

SPANGLER, DANIEL PATRICK, Ph.D. (University of Arizona)
Associate Professor of Geology (1973-1976).

SPANIER, JOHN WINSTON, Ph.D. (Yale University)
*Professor of Political Science (1957-1967).**

SPANIER, SUZANNE O., M.D. (University of Florida)
Assistant Professor of Orthopaedic Surgery (1975-1975).

SPARKS, LINDA FRANCES, M.S. in L.S.
Associate Librarian, Education Library (1961-1970).

SPENCER, CRISPIN P., D.V.M. (University of Georgia)
Assistant Professor, Department of Special Clinical Sciences, College of Veterinary Medicine (1977-1977).

SPILLANE, RITA, MSN (Boston College)
Instructor, College of Nursing (1979-1979)

SPINKS, DANIEL O., Ph.D. (North Carolina State University)
Professor and Acting Dean for Resident Instruction, IFAS (1947-1971).

SPITZER, A. L., J.D. (University of Iowa)
Assistant Professor of Law (1979-1979).

SPREEN, THOMAS H., Ph.D. (Purdue University)
Assistant Professor, Food & Resource Economics, IFAS (1977-1977).

SPRING, ANITA, Ph.D. (Cornell University)
Associate Professor of Behavioral Studies and Anthropology (1973-1978).

SPRINGER, PHILIP K., M.D. (University of Mississippi)
Assistant Professor of Psychiatry (1977-1977).

SPRINGFIELD, DEMPSEY S., M.D. (University of Florida)
Assistant Professor of Orthopaedic Surgery (1978-1978).

SPURLOCK, CARL W., Ph.D. (University of Oklahoma)
Associate Professor of Geography (1972-1978).

SRULL, THOMAS K., Ph.D. (University of Illinois)
Assistant Professor of Psychology (1979-1979)

SRYGLEY, TED FILO, M.S. (University of Illinois)
Director, J. Hillis Miller Health Center Library (1966-1966).

ST. JACQUES, ERNEST HOWARD, Ph.D. (George Peabody College)
Dean of Academic Affairs for Matriculation Services and Associate Professor of Social Sciences (1969-1973).

STAEHLE, DARYL C., M.A.
Assistant Professor of Journalism and Communications and News Director, Radio Station WRUF, (1979-1979).

STAHMER, HAROLD M., Ph.D. (Cambridge University)
Professor of Religion and Philosophy (1969-1969).

STAINSBY, WENDELL N., Sc.D. (John Hopkins University)
Professor of Physiology (1957-1969).

STALL, ROBERT EUGENE, Ph.D. (Ohio State University)
Professor of Plant Pathology, IFAS (1957-1969).

STANDLEY, GERALD BRENT, Ph.D. (University of Buffalo)
Professor of Philosophy (1960-1968).

STANLEY, CRAIG D., Ph.D. (Iowa State University)
Assistant Professor (Soil-Water Relations), IFAS Agricultural Research and Education Center, Bradenton (1979-1979).

STANLEY, HAROLD R., D.D.S. (University of Maryland)
Professor and Chairman of Oral Medicine, College of Dentistry and Professor of Pathology (1968-1974).

STANLEY, ROBERT LEE, JR., Ph.D. (University of Georgia)
Associate Professor (Associate Agronomist), IFAS, Agricultural Research and Education Center, Quincy (1968-1975).

STAPELL, CHRISTINE, M.S. (University of Kentucky)
Instructor in Clinical and Community Dietetics (1977-1978).

STARNES, EARL MAXWELL, Ph.D. FAIA (Florida State University)
Chairman and Professor of Urban and Regional Planning (1976-1976).

STARR, CHRISTOPHER A., D.D.S. (State University of New York at Buffalo)
Assistant Professor of Operative Dentistry, College of Dentistry (1979-1979).

STECHMILLER, JOYCE, MSN, (University of Maryland)
Assistant Professor, College of Nursing (1979-1979).

STEELE, KATHERINE L., Ed.D. (University of Florida)
Associate Director, Office of Instructional Resources (1974-1974).

STEGELIN, FORREST E., Ph.D. (Oklahoma State University)
Assistant Professor, Food and Resource Economics, IFAS, (1979-1979).

STEIN, GARY S., Ph.D. (University of Vermont)
Professor of Biochemistry and Molecular Biology (1972-1979).

STEIN, GERALD H., M.D. (University of Pennsylvania)
Assistant Professor of Medicine (VAH) and Community Health and Family Medicine (1969-1972).

STEIN, JANET L., Ph.D. (Princeton University)
Assistant Professor of Immunology, Medical Microbiology, Biochemistry, and Molecular Biology (1976-1976).

STEPHENS, FOY WOODROW, M.P.H.
Associate Professor of Physical Education (1952-1976).

STEPHENS, JAMES MORRIS, M.S.A. (University of Florida)
Associate Professor (Extension Vegetable Specialist), IFAS (1962-1974).

STERN, WILLIAM LOUIS, Ph.D. (University of Illinois)
Professor and Chairman of Botany, Arts and Sciences (1979-1979).

STERRETT, DELBERT ELLINGSWORTH, Ed.D. (Geo. Peabody College)
Associate Professor of Music (1948-1970).

STEVENS, ANN REBECCA, Ph.D. (University of Colorado)
Associate Professor of Biochemistry, VAH (1968-1974).

STEWART, B., M.A. (University of Florida)
Director, Program for Academic Counseling and Tutoring and Lecturer (1979-1979).

STEWART, ERNEST HAROLD, M.S. (Auburn University)
Associate Professor (Associate Soils Physicist), IFAS, USDA, Agricultural Research Center, Ft. Pierce (1960-1960).

STEWART, IVAN, Ph.D. (Rutgers University)
Professor (Biochemist), IFAS, Agricultural Research and Educational Center, Lake Alfred (1951-1961).

STEWART, RONALD BROR, M.S.P.
Associate Professor of Clinical Pharmacy, and Associate Chairman of Pharmacy (1963-1975).

STIMAC, JERRY LYNN, Ph.D. (Oregon State University)
Assistant Professor, (Assistant Entomologist), IFAS, (1977-1977).

STITT, STEPHEN D., J.D. (University of Michigan)
Assistant Professor of Law (1972-1972).

STONE, WILLIAM K., A.B. (Harvard College)
Associate Director of Development for Planned Giving (1973-1973).

STONE, WILLIARD E., Ph.D. (U. of Pennsylvania), C.P.A. (Pennsylvania)
Professor of Accounting (1960-1960).

STOUFER, ROBERT CARL, Ph.D. (Ohio State University)
Associate Professor of Chemistry (1958-1967).

STOUT, FRANK W., D.D.S. (University of Detroit)
Associate Professor of Oral Medicine, College of Dentistry (1972-1972).

STOUT, L. RANDALL, M.Div. (Southern Baptist Theological Sem.)
Assistant Director of Pastoral Care, Shands Teaching Hospital and Clinics (1978-1978).

STOUT, THOMAS E., JR., B.S. (Texas A&M University)
Captain, US Army, Assistant Professor of Military Science (1979-1979).

STRAIN, J. ROBERT, Ph.D. (Oregon State University)
Professor (Extension Economist) Food and Resource Economics Department, IFAS (1976-1976).

STRANDBERG, JAMES OLIVER, Ph.D. (University of Wisconsin)
Professor (Plant Pathologist), IFAS, Agricultural Research and Education Center, Sanford (1967-1979).

STRANGE, LUTHER J., M.B.A., (Stanford University)
Assistant Professor of Building Construction (1978-1979).

STRAUGHN, ALTO ALFRED, Ph.D. (University of Wisconsin)
Associate Professor (Director, Program Evaluation and Organizational Development), IFAS (1965-1973).

STRAUS, BARRIE RUTH, Ph.D. (University of Iowa)
Associate Professor of English (1973-1979).

STRAYER, JOHN R., Ph.D. (Clemson University)
Professor, IFAS (1965-1975).

STREB, FREDERICK J., M.Eng. (University of Florida)
Captain U.S. Army, Assistant Professor of Military Science (1979-1979).

STREET, JIMMY JOE, Ph.D. (Colorado State University)
Assistant Professor of Soil Science (Soil Extension), IFAS (1976-1976).

STREETMAN, EVON, B.A. (Florida State University)
Associate Professor of Art (1977-1977).

STREIB, GORDON F., Ph.D. (Columbia University)
Graduate Research Professor of Sociology (1975-1975).

STREIFF, RICHARD R., M.D. (University of Basel)
Professor of Medicine and Chief of Medical Services, VAH (1967-1974).

STRICKLAND, ALBERT CARSON, M.S. (Florida State University)
Librarian, IFAS (1958-1973).

STRINGFELLOW, HART R., Ph.D. (University of Florida)
Assistant Professor of Oral Medicine and Dental Education, College of Dentistry (1975-1975).

STRIPLING, ROBERT OLIN, Ed.D. (Columbia University)
Distinguished Service Professor, Counselor Education (1941-1974).

STROHBACH, MARY ELLEN, MSN (Catholic University)
Assistant Professor, College of Nursing (1979-1979).

STROZIER, VIRGINIA RAGLAND, M.A. (University of Chicago)
*Associate Professor, College of Nursing (1957-1976).**

STURGILL, CLAUDE C., Ph.D. (University of Kentucky)
Professor of History (1969-1977).

SU, STANLEY Y. W., Ph.D. (University of Wisconsin)
Professor of Computer and Information Sciences, Electrical Engineering, College of Engineering (1970-1978).

SUAREZ, ANDRES, D.C.L. (University of Havana)
Professor of Latin American Studies, History, and Political Science (1965-1965).

SUBRAMANYA, R., Ph.D. (Michigan State University)
Assistant Professor, (Horticulturist), IFAS, Agricultural Research and Education Center, Belle Glade (1978-1978).

SUCHMAN, DAVID I., Ph.D. (Ohio State University)
Counseling Psychologist, University Counseling Center; Associate Professor of Psychology (1967-1967).

SULLIVAN, EDWARD THOMAS, D.F. (Duke University)
Associate Professor (Forest Economist), IFAS (1959-1959).

SULLIVAN, ROBERT LEE, Ph.D. (University of Florida)
Professor of Electrical Engineering (1970-1979).

SULLIVAN, WILLIAM J., Ph.D. (Yale University)
Associate Professor of Russian and Linguistics (1970-1975).

SULLWOLD, ARTHUR F., M.D. (Louisiana State University)
Assistant Professor of Psychiatry, VAH (1976-1977).

SUMMERHILL, WILLIAM RODERICK, Ed.D. (N. Carolina St. Univ.)
Assistant Professor, (Program Specialist), IFAS (1978-1978).

SUN, CHANG-TSAN, Ph.D. (Yale University)
Professor of Engineering Sciences (1979-1979).

SUNWALL, JAMES RAYMOND, Ph.D. (University of Iowa)
Professor of English (1957-1971).

SURAK, JOHN GODFREY, Ph.D. (University of Wisconsin)
Assistant Professor (Assistant Food Toxicologist), IFAS (1974-1974).

SUSSMAN, LEWIS A., Ph.D. (University of North Carolina)
Associate Professor of Classics (1976-1976).

SUTHERLAND, ALAN DURYEA, Ph.D. (University of Illinois)
*Professor of Electrical Engineering (1958-1965).**

SUTHERLAND, JOHN C., M.B.A.
Assistant Professor of Journalism and Communications (1978-1978).

SUTTER, ANN B., M.S.W. (University of Oklahoma)
Instructor of Social Work in Psychiatry (1977-1977).

SUTTON, DAVID LEE, Ph.D. (Virginia Polytechnic Institute)
Professor (Agronomist) Agricultural Research Center, Ft. Lauderdale (1970-1979).

SUZUKI, HOWARD K., Ph.D. (Tulane University)
Professor, College of Health Related Profession, (1970-1979).

SWAIN, RALPH W., Ph.D. (Cornell University)
Associate Professor of Industrial and Systems Engineering and Associate Director, Health Systems Research Center (1976-1976).

SWANN, THOMAS E., Ph.D. (Harvard University)
Visiting Assistant Professor of Japanese (1978-1978).

SWANSON, BERT E., Ph.D. (University of Oregon)
Professor of Political Science (1971-1971).

SWANSON, RICHARD M., Ph.D. (University of Colorado)
Associate Professor of Psychology and Director, Criminal Justice (1972-1979).

SYPERT, GEORGE W., M.D. (University of Washington)
Associate Professor of Surgery and Neuroscience, and Chief of Neurological Surgery, VAH (1974-1977).

SYPERT, NANCY S., M.N. (University of Washington)
Assistant Professor, College of Nursing (1975-1978).

SYVERTSEN, JAMES P., Ph.D. (New Mexico State University)
Assistant Professor, (Assistant Plant Pathologist), IFAS, AREC, Lake Alfred (1977-1978).

TABELING, BARBARA B., M.D. (University of Kentucky)
Instructor of Anesthesiology (1979-1979).

TALBERT, JAMES L., M.D. (Vanderbilt University)
Professor of Surgery and Pediatrics and Chief of Pediatric Surgery (1967-1970).

TANNER, GEORGE W., Ph.D. (Texas A & M University)
Assistant Professor, IFAS (1978-1978).

TAPPAN, WILLIAM BURGESS, M.S.A. (University of Florida)
Professor (Entomologist), IFAS, Agricultural Research and Education Center, Quincy (1955-1974).

TARJAN, ARMAN CHARLES, Ph.D. (University of Maryland)
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TARRANT, PAUL, Ph.D. (Duke University)
Professor of Chemistry (1946-1957).

TATE, ROBERT L. III, Ph.D. (University of Wisconsin)
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TATE, SUSAN DOUGLAS, M.S., M.Arch. (University of Florida)
Assistant Professor of Interior Design (1972-1976)

TAYLOR, BARBARA E., Ph.D. (University of Wisconsin)
Assistant Professor, Extension Specialist in Family Environment (1977-1977).

TAYLOR, CAROLYN D., M.A. (London University)
Assistant Professor, College of Nursing (1959-1974).

TAYLOR, CLIFTON L., Ph.D. (University of Wisconsin)
Assistant Professor (Extension Program Specialist), IFAS (1975-1975).

TAYLOR, FRANK H.G.
Associate Professor of Humanities (1964-1968).

TAYLOR, GRACE W., J.D. (University of Florida)
Director and Professor of Law Libraries (1950-1978).

TAYLOR, KARL EDWARD, Ph.D. (Yale University)
Assistant Professor of Physics and Atmospheric Sciences (1979-1979)

TAYLOR, W.F., L.L.M (University of Wisconsin)
Assistant Professor of Law (1979-1979).

TAYLOR, WILLIAM JAPE, M.D. (Harvard University)
Distinguished Service Professor of Medicine (1958-1974).

TEAGUE, PERRY O., Ph.D. (University of Oklahoma)
Associate Professor of Pathology (1968-1973).

TEARE, IWAN DALE, Ph.D. (Purdue University)
Professor and Center Director, IFAS Agricultural Research and Education Center, Quincy, (1979-1979).

TEAS, DONALD CLAUDE, Ph.D. (University of Texas)
Professor of Speech and Psychology and Electrical Engineering (1967-1971).

TEEM, DAVID H., Ph.D. (Auburn University)
Associate Professor (Weed Specialist) (1976-1979).

TEFERTILLER, KENNETH RAY, Ph.D. (University of Illinois)
Professor (Economist) and Vice President for Agricultural Affairs, IFAS (1965-1973).

TENNANT, LEO KEITH, Ed.S. (University of Florida)
Assistant Professor of Professional Physical Education (1967-1972).

TEPLY, MARK LAWRENCE, Ph.D. (University of Nebraska)
Associate Professor of Mathematics (1968-1973).

TERHUNE, FRANCES W., Ph.D. (University of Florida)
Associate in Research, Bureau of Economic and Business Research (1976-1977).

TERHUNE, JAMES L., Ph.D. (Indiana University)
*Associate Professor of Journalism and Communications and Chairman, Department of Advertising and Public Relations (1967-1976).**

TERRY, CLINTON, Ph.D. (University of California-Santa Barbara)
Assistant Professor of Sociology (1977-1977).

TERRY, JUAN E., M.S.L.S. (Our Lady of the Lake College)
Assistant Librarian, J. Hillis Miller Health Center Library (1968-1968).

TERRY, RICHARD E., Ph.D. (Purdue University)
Assistant Professor (Assistant Soil Biochemist), Agricultural Research and Education Center, Belle Glade (1977-1977).

TESAR, DELBERT, Ph.D. (Georgia Institute of Technology)
Professor of Mechanical Engineering; Professor of Engineering Sciences (1964-1969).

TEW, ROY EDWARDS, Ph.D. (Ohio State University)
*Professor of Speech (1937-1966).**

THAR, TIMOTHY L., M.D. (John Hopkins University)
Assistant Professor of Radiation Therapy (1976-1976).

THATCHER, WILLIAM WATTERS, Ph.D. (Michigan State University)
Professor, (Animal Physiologist), IFAS (1969-1978).

THEVENET, THEODORE R., D.D.S. (Baylor University)
Assistant Professor of Occlusion and Fixed Prosthodontics, College of Dentistry (1979-1979).

THOMAS, BILLY SEAY, Ph.D. (Vanderbilt University)
Associate Professor of Physics (1960-1976).

THOMAS, DARRYL L., Ph.D. (University of California)
Assistant Professor (Assistant Pathologist) Agricultural Research Center, Ft. Lauderdale (1972-1972).

THOMAS, JAMES M., M.D. (University of Florida)
Assistant Professor and Chairman of Surgery, JHEP (1979-1979).

THOMAS, ROBERT E., M.A. (University of Florida)
Assistant Professor, (Editor), IFAS (1974-1974).

THOMAS, WILLIAM CLARK, JR., M.D. (Cornell University)
Professor of Medicine and Associate Director for Research, VAH (1957-1973).

THOMPSON, BUFORD DALE, Ph.D. (University of Florida)
*Professor (Horticulturist), IFAS, (1948-1966).**

THOMPSON, FLOYD J., Ph.D. (Indiana University)
Assistant Professor, Department of Neurosciences, College of Medicine (1974-1974).

THOMPSON, FRED GILBERT, Ph.D. (University of Miami)
Associate Curator of Malacology, Florida State Museum, Joint Associate Professor of Zoology and Latin American Studies (1966-1973).

THOMPSON, IRENE, M.A. (New York University)
Associate Professor of English (1967-1975).

THOMPSON, NEAL PHILIP, Ph.D. (Princeton University)
Professor (Biochemist), IFAS (1965-1977).

THOMPSON, RALPH BURNHAM, Ph.D. (University of Texas)
*Professor of Marketing; Professor, Bureau of Economic and Business Research (1955-1960).**

THOMSON, ROBERT S., Ph.D. (Cambridge University)
Associate Professor of English (1974-1979).

THOMPSON, ROGER M., Ph.D. (University of Texas)
Associate Professor of English and Linguistics (1971-1976).

THOMPSON, VICTOR A., Ph.D. (Columbia University)
Graduate Research Professor of Political Science (1971-1977).

THOMSON, CAROL, B.S.P.E. (University of Delaware)
Women's Track Coach, (1979-1979).

THORNE, KARL SEYMOUR, M.Arch. (University of Pennsylvania)
Associate Professor of Architecture (1978-1978).

THURSBY, GENE ROBERT, Ph.D. (Duke University)
Associate Professor of Religion (1970-1976).

TICER, JAMES W., D.V.M. (University of California at Davis), Ph.D. (Colorado State University)
Chief of Staff, Veterinary Medical Teaching Hospital and Professor, Department of Special Clinical Sciences, College of Vet. Med (1976-1976).

TILLMAN, CHESTER EARL, Ed.D. (University of Florida)
Associate Professor of English and Education (1967-1976).

TILLMAN, WILEY JAMES, JR., M.Arch. (University of Illinois)
*Associate Professor of Architecture (1952-1968).**

TIMMER, LAVERN W., Ph.D. (University of California)
Associate Professor (Associate Plant Pathologist), IFAS, Agricultural Research and Education Center, Lake Alfred, (1978-1978).

TIMMERMAN, MELVIN EUGENE, Ph.D. (University of South Carolina)
Assistant Professor of Education (1960-1960).

TJIA, BENNY O., Ph.D. (Ohio State University)
Assistant Professor (Extension Floriculture Specialist), IFAS (1975-1975).

TOBEY, FRANK L., Ph.D. (University of Michigan)
Assistant Professor of Ophthalmology (1974-1974).

TODA, YASUSHI, Ph.D. (Harvard University)
Assistant Professor of Economics (1974-1974).

TODD, EUGENE ALLEN, Ed.D. (University of Houston)
Professor of Education and Chairman, Department Subject Specialization Teacher Education (1965-1971).

TOLBERT, ELIAS LAKE, Ed.D. (Columbia University)
Professor of Education (1967-1979).

TOMECKI, KENNETH J., M.D. (Columbia Col Phys. and Surgeons)
Assistant Professor of Medicine (1978-1978).

TOROSIAN, GEORGE, Ph.D. (University of Wisconsin)
Associate Professor of Pharmacy (1969-1974).

TOSI, HENRY L., (Ohio State University)
Professor and Chairman of Management (1978-1978).

TOSKES, PHILIP P., M.D. (University of Maryland)
Professor of Medicine, and Chief of Gastroenterology (1973-1978).

TOU, JULIUS T., Ph.D. (Yale University)
Director, Center for Information Research, and Graduate Research Professor of Computer and Information Sciences and Electrical Engineering, College of Engineering (1967-1967).

TOWNSEND, FRANK CHARLES, Ph.D. (Oklahoma State)
Professor of Civil Engineering (1979-1979).

TRAVIS, DAVID M., M.D. (Vanderbilt University)
Professor of Pharmacology and Therapeutics (1958-1974).

TREADWELL, JANE B., M.S.L.S. (Florida State University)
Assistant Librarian, Catalog Department (1978-1978).

TRELOAR, DONNA, M.N. (University of Florida)
Assistant Professor, College of Nursing (1978-1978).

TRELOAR, RICHARD W., M.B.A. (University of Florida)
Director, Medical Record Services, Shands Teaching Hospital and Clinics (1978-1978).

TRICKEY, SAMUEL BALDWIN, Ph.D. (Texas A&M University)
Professor of Physics (1968-1979)

TRIMMER, J. MORRIS, M.B.A. (University of Florida)
*Associate Professor of Building Construction (1958-1975.)**

TROBE, JONATHAN D., M.D. (Harvard Medical School)
Assistant Professor and Chief of Ophthalmology, VAH (1974-1975).

TROUPIN, EDWARD CHARLES, M.M. (University of Michigan)
Professor of Music (1960-1968).

TRUEBLOOD, FELICITY, M.A. (University of Florida)
Associate Research Scholar of Latin American Studies and History (1964-1976).

TSAI, JAMES HSI-CHO, Ph.D. (Michigan State University)
Associate Professor, (Associate Entomologist), IFAS, Agricultural Research Center, Ft. Lauderdale (1973-1978).

TUCKER, CAROLYN M., Ph.D. (SUNY at Stony Brook)
Assistant Professor of Behavioral Studies and Psychology (1976-1977).

TUCKER, DAVID P., Ph.D. (Univ. of California, Riverside)
Professor (Extension Horticulturist), IFAS, Arec-Lake Alfred (1966-1978).

TURNER, EDWARD C., Ph.D. (Michigan State University)
Assistant Professor of Education (1972-1973).

TURNER, ELDON R., Ph.D. (Kansas State University)
Assistant Professor of History (1969-1969).

TURNER, I. DOUGLAS, B.S. (Stetson University)
Director of Student Financial Affairs (1965-1967).

TWITCHELL, JAMES B., Ph.D. (University of North Carolina)
Associate Professor of English (1973-1976).

TYLKOWSKI, CHESTER M., M.D., (University of Illinois)
Assistant Professor of Orthopaedics (1979-1979).

TYLER, MAX E., Ph.D. (Ohio State University)
Professor, Microbiology and Cell Science, IFAS (1953-1953).

TYLER, WILLIAM GURDON, III, Ph.D. (Fletcher School of Law and Diplomacy, Tufts University)
*Assistant Professor of Economics (1969-1969).**

TYNER, MACK, Ph.D. (University of Cincinnati)
Professor of Chemical Engineering (1944-1956).

UDELL, BUDD ALLEN, D.M.A. (Cincinnati)
Associate Professor of Music & Chairman of Department of Music (1977-1977).

UELSMANN, JERRY NORMAN, M.S., M.F.A. (Indiana University)
*Graduate Research Professor of Art (1960-1974).**

ULAM, STANISLAW MARCIN, Ph.D. (Polytechnic Institute in Lwow, Poland)
Graduate Research Professor of Mathematics (1973-1973).

ULMER, GREGORY, Ph.D. (Brown University)
Associate Professor of Humanities (1972-1977).

UMAN, MARTIN ALLAN, Ph.D. (Princeton University)
Professor of Electrical Engineering and Physics (1972-1972).

UNDERBERGER, HOWARD LLOYD, M.S. (Poly Tech Inst. at Brooklyn)
Associate Professor of Building Construction (1971-1976).

UPCHURCH, M. L., Ph.D. (University of Wisconsin)
Professor, Food and Resource Economics, IFAS (1972-1977).

UPSHAW, WINTON LAMAR, B.S.B.A. (University of Florida)
Associate in College of Health Related Professions (1962-1976).

URIE, MARCIA M., Ph.D., (University of Florida)
Assistant Professor of Radiology (1979-1979).

URONE, PAUL, Ph.D. (Ohio State University)
Professor of Environmental Engineering Sciences and Affiliate Professor of Chemistry (1971-1971).

VALA, MARTIN T., Ph.D. (University of Chicago)
Professor of Chemistry (1967-1978).

VALENSTEIN, EDWARD, M.D. (Albert Einstein College of Medicine)
Associate Professor and Chief of Neuromuscular Services (1974-1978).

VALISALO, Paavo E., D.Eng. (Technical University of Finland)
Associate Professor of Industrial and Systems Engineering (1961-1970).

VAN, THAI K., Ph.D. (University of Florida)
Assistant Professor, IFAS (1975-1979).

VAN ALSTYNE, W. SCOTT, S.J.D. (University of Wisconsin)
Professor of Law (1972-1973).

VAN AUKEN, WENDELL G., Ed.S. (University of Florida)
*Assistant in Administration (1970-1971).**

VAN BLOKLAND, PETER JON, Ph.D. (University of Illinois)
Assistant Professor, Food and Resource Economics, IFAS (1976-1976).

VAN DE RIET, VERNON DWAYNE, Ph.D. (Florida State University)
Associate Professor of Clinical Psychology (1962-1968).

VANDERWERF, CALVIN A., Ph.D. (Ohio State University)
Professor of Chemistry (1971-1971).

VANDIVER, JOSEPH S., Ph.D. (Louisiana State University)
Professor of Sociology (1962-1962).

VANDIVER, VERNON V., Ph.D. (North Carolina State University)
Assistant Professor (Extension Aquatic Weeds Specialist) IFAS, Agricultural Research Center, Ft. Lauderdale (1975-1975).

VAN HARTESVELDT, CAROL J., Ph.D. (University of Rochester)
Associate Professor of Psychology (1970-1978).

VAN HORN, HAROLD H., Ph.D. (Iowa State University)
Professor (Animal Nutritionist) and Chairperson, Dairy Science Department, IFAS (1970-1970).

VAN MIEROP, L.H.S., M.D. (University of Leiden, Netherlands)
Graduate Research Professor (1966-1977).

VAN RINSVELT, HENRI ALBERT, Ph.D. (University of Utrecht)
Professor Physics (1967-1978).

VARADY, BERTALAN J., M.S. (Southern Illinois University Edwardsville),
Captain, US Air Force, Assistant Professor Aerospace Studies (1979-1979).

VARMA, ARUN KUMAR, Ph.D. (University of Alberta)
Professor of Mathematics (1967-1975).

VARNES, JILL WILSON, Ed.D. (University of S. Mississippi)
Assistant Professor of Health Education (1978-1978).

VARNES, PAUL RAY, Ed.D. (University of Florida)
Professor of Recreation and Chairperson of the Department of Recreation (1968-1975).

VASIL, INDRA K., Ph.D. (University of Delhi)
Graduate Research Professor of Botany, IFAS, (1967-1979).

VERA, MARIA INEZ, M.S.W. (University of Kansas)
Instructor of Social Work in Psychiatry (1974-1974).

VERA-GODOY, HERNAN, Ph.D. (University of Kansas)
Assistant Professor of Sociology (1974-1974).

VERINK, ELLIS DANIEL, JR., Ph.D. (Ohio State University)
Professor of Materials Science and Engineering and Chairperson of the Department (1965-1973).

VERNON, JACK R., Ph.D. (Northwestern University)
Professor of Economics (1967-1974).

VERTUCCI, FRANK J., D.M.D. (New Jersey Dental School)
Assistant Professor of Endodontics, College of Dentistry (1975-1975).

VETTER, MICHAEL K., M.Ed. (Bowling Green State University)
Assistant Director of Housing for Residence Life, Housing (1979-1979).

VICKERS, FRANK D., Ph.D. (University of Florida)
Associate Professor of Computer and Information Sciences, College of Engineering (1959-1967).

VICTORICA, BENJAMIN E., M.D (University of Cuyo, Argentina)
Associate Professor of Pediatrics (1967-1974).

VIERCK, CHARLES J., JR., Ph.D. (University of Florida)
Professor of Neuroscience and Psychology (1965-1977).

VILALLONGA, FREDERICO, Ph.D. (University of Buenos Aires)
Professor of Pharmacy (1969-1969).

VISSCHER, E. MARIE, M.S. (Adelphi University)
Assistant Professor, College of Nursing (1978-1978).

VISSCHER, EDWARD (Concordia Seminary)
Assistant Basketball Coach (1978-1978).

VOGEL, STEPHEN B., M.D., (University of Florida)
Associate Professor of Surgery (1979-1979).

VOGELHUT, MARK M., M.D., (University of North Carolina)
Assistant Professor of Anesthesiology (1979-1979).

VOGH, BETTY P., Ph.D. (University of Florida)
Associate Professor of Pharmacology and Therapeutics (1965-1974).

VOICHYSONK, BERNARD FRANCIS, M.F.A. (Yale)
Professor of Architecture (1959-1976).

VOLIN, RAYMOND B., Ph.D. (Montana State College)
Associate Professor (Associate Plant Pathologist), IFAS Agricultural Research & Education Center, Homestead (1971-1977).

VOLK, BOB GARTH, Ph.D. (Michigan State University)
Associate Professor of Soil Science (Soil Chemistry), IFAS (1970-1974).

VON MERING, OTTO O., Ph.D. (Harvard University)
Professor of Anthropology and Community Health and Family Medicine (1970-1970).

VOYLES, LOUIS VERNON, B.A. (University of Florida)
University Registrar (1948-1974).

WACKERLY, DENNIS D., Ph.D. (Florida State University)
Associate Professor of Statistics (1973-1977).

WADDILL, V. H., Ph.D. (Clemson)
Assistant Professor (Assistant Entomologist), Agricultural Research and Education Center, Homestead IFAS, (1975-1975).

WAGLEY, CHARLES W., Ph.D. (Columbia University)
Graduate Research Professor of Anthropology (1971-1971).

WAGLOW, IRVING FREDERICK, Ed.D. (New York University)
Professor of Physical Education (1946-1965).

WAGNER, JAMES T., Ed.S. (University of Florida)
Director of Pastoral Care, Shands Teaching Hospital (1970-1973). (1972-1973).

WAGNER, PATRICIA ANN, Ph.D. (University of Wisconsin)
Assistant Professor, Extension Nutrition Specialist, IFAS (1975-1975).

WAGNER, WILLIAM GRANT, M.Arch. (Texas A & M University)
Professor of Architecture (1964-1979).

WAHL, F. MICHAEL, Ph.D (University of Illinois)
Acting Dean of the Graduate School, Acting Director of Sponsored Research, and Professor of Geology (1969-1979).

WAITES, ROBERT ELLSWORTH, Ph.D. (Ohio State University)
Associate Professor (Associate Entomologist), IFAS, (1951-1968).

WAITS, K., J.D. (Harvard Law School)
Assistant Professor of Law (1979-1979)

WAKEMAN, DONALD LEE, M.S.A. (University of Florida)
Professor, (Animal Husbandry), IFAS (1957-1975).

WALDBILLIG, ROBERT J., Ph.D (University of Minnesota)
Assistant Professor of Psychology (1976-1976).

WALDO, TOMMY RUTH, Ph.D (University of Florida)
Professor of English (1955-1976).

WALDO, WHITSON, J.D. (University of Alabama)
Associate Professor of Building Construction (1979-1979).

WALDRON, CLAIRE M., M.A. (University of Missouri-Columbia)
Visiting Instructor of Speech (1977-1977).

WALDRON, JOSEPH M., D.D.S., M.S. (Medical College of Virginia)
Assistant Professor of Orthodontics, College of Dentistry (1978-1978).

WALKER, DON W., Ph.D. (Texas Christian University)
Associate Professor of Neuroscience, VAH (1970-1975).

WALKER, DORIS KATHERINE, Ph.D. (University of California)
Assistant Professor, Extension Home Management and Family Economics Specialist (1977-1977).

WALKER, R. DIXON, III, M.D (University of Miami)
Professor of Surgery and Pediatrics (1970-1976).

WALKER, ROBERT DIXON, JR., M.S.
Professor of Chemical Engineering (1944-1969).

WALLACE, CHARLES E., Ph.D. (University of Florida)
Associate Engineer (1979-1979).

WALLACE, HAROLD DEAN, Ph.D. (Cornell University)
Professor (Animal Nutritionist) and Chairperson, IFAS (1950-1976).

WALLBRUNN, HENRY MAURICE, Ph.D. (University of Chicago)
Associate Professor of Zoology (1951-1963).

WALSH, CHARLOTTE D., M.Ed. (Stetson University)
Instructor, P. K. Yonge Laboratory School (1978-1978).

WALSH, EDWARD KYRAN, Ph.D. (Brown University)
Professor of Engineer Sciences (1970-1975).

WALSH, THOMAS, Ph.D. (University of Chicago)
Associate Professor of Mathematics (1971-1975).

WALTERS, YANCEY BAILEY, M.S. (Auburn University)
Professor (Extension Home Economist-ENP Coordinator), IFAS (1965-1965).

WALTON, MARGARET N., M.S. (Florida State University)
Assistant Professor in Extension Home Economics, FAMU, IFAS (1973-1973).

WALTON, TODD L., JR., M.E. (University of Florida)
Assistant in Engineering of Coastal and Oceanographic Engineering Laboratory (1973-1973).

WANG, SHIH-CHI, Ph.D. (Michigan State University)
Assistant Research Scientist of Forestry, IFAS (1979-1979).

WANG, YU-HWA, Ph.D. (University of Southern California)
Associate Professor of Coastal and Oceanographic Engineering (1973-1978).

WARD, DANIEL BERTRAM, Ph.D. (Cornell University)
Professor of Botany, IFAS (1958-1975).

WARD, JOHN LAWRENCE, M.A., M.F.A.
*Associate Professor of Art (1966-1975).**

WARD, PHILLIP A., M.F.A. (Tulane University)
Professor of Art (1959-1977).

WARD, RONALD W., Ph.D. (Iowa State University)
Professor, Food and Resource Economics Department, IFAS (1970-1979).

WARDOWSKI, WILFRED F., Ph.D. (Michigan State University)
Professor (Extension Horticulturist), IFAS, AREC-Lake Alfred (1969-1979).

WARHEIT, GEORGE J., Ph.D. (Ohio State University)
Professor of Sociology in Psychiatry (1969-1974).

WARNICK, ALVIN CROPPER, Ph.D. (University of Wisconsin)
Professor (Animal Physiologist) IFAS, (1953-1962).

WARREN, GLENDA LOU, M.S. (Oklahoma State University)
Associate Professor, Extension Nutritionist-EFNEP (1971-1977).

WARREN, MICHAEL EDWARD, Ph.D. (Massachusetts Institute of Technology)
Assistant Professor of Electrical Engineering (1974-1974).

WARRINGTON, MARILYN, Ph.D. (University of Florida)
Associate Professor, Extension Nutritionist-EFNEP (1979-1979).

WASS, HANNELORE LINA, Ph.D. (University of Michigan)
Professor of Education (1969-1975).

WATERS, WILLIE ESTEL, Ph.D. (University of Florida)
Professor (Horticulturist) and Center Director, Agricultural Research and Educational Center, Bradenton, IFAS (1960-1968).

WATERS, WRIGHT, M.Ed. (Livingston University)
Academic Advisor (1979-1979).

WATSON, JAMES KENNETH, Ph.D. (Rice University)
Professor of Electrical Engineering (1966-1979).

WATSON, ROBERT T., M.D., (University of Florida)
Professor of Neurology (1979-1979).

WATTENBARGER, JAMES L., Ed D. (University of Florida)
Professor of Education and Chairperson, Educational Administration Department (1947-1968).

WATTERSON, JAMES W., Ph.D. (University of Florida)
Associate Engineer in Electrical Engineering (1977-1977).

WATTLEWORTH, JOSEPH A., Ph.D. (Northwestern University)
Professor of Civil Engineering (1969-1969).

WATTS, EARLE HUNT, B.S. (University of Missouri)
Assistant Professor of Mechanical Engineering (1957-1957).

WATVE, CHAND M., Ph.D., (Louisiana State University)
Assistant Professor (Assistant Entomologist), IFAS, Agricultural Research and Education Center, Belle Glade (1978-1978).

WEAR, RICHARD ARLEN, Ph.D. (Florida State University)
Associate Professor of English (1970-1976).

WEAVER, ANNA LOUISE, B.S. in L.S. (Simmons College)
*Librarian in Charge of Architecture and Fine Arts Library (1959-1973).**

WEAVER, ERNESTINE JEAN, BSPE (Michigan State University)
Women's Gymnastics Coach, (1979-1979).

WEAVER, WILLIAM BANCROFT, M.S. (Florida State University)
Associate Librarian, IFAS (1964-1969).

WEBB, ALISTAIR I., B.V.Sc. (University of Queensland) Ph.D. (University of Bristol)
Assistant Professor, Department of Medical Sciences, College of Veterinary Medicine (1978-1978).

WEBB, CHARLES H., M.D., (Harvard University)
Assistant Professor of Medicine (1979-1979).

WEBB, DANIEL WARREN, Ph.D. (Kansas State University)
Associate Professor (Extension Dairyman), IFAS (1971-1976).

WEBB, JEANINNE N., Ed.D. (University of Florida)
Associate Professor and Director, Office of Instructional Resources (1972-1972).

WEBB, RODMAN B., Ed.D. (Rutgers University)
Associate Professor of Education (1972-1977).

WEBB, SAWNEY DAVID, Ph.D. (University of California)
Curator of Vertebrate Paleontology, Florida State Museum, Joint Professor of Latin American Studies, Zoology and Geology (1964-1975).

WEBB, W.B., Ph.D. (State University of Iowa)
Graduate Research Professor of Psychology (1958-1970).

WEBBER, RAYMOND T., D.D.S. (U. of Missouri at Kansas)
Assistant Professor of Endodontics, College of Dentistry (1977-1977).

WEBER, F. THOMAS, M.D. (University of Cincinnati)
Assistant Professor of Pediatrics and Assistant Director of Pediatric Clinic (1975-1975).

WEBER, W. ROBERT, M.D. (University of Cincinnati)
Assistant Professor of Pathology (1977-1977).

WEHLBURG, ALBERT F. C., Ed.D. (University of Florida)
Associate Professor of Theatre (1966-1978).

WEINER, ROY S., M.D. (State University of New York)
Associate Professor of Medicine and Chief of Oncology (1976-1976).

WEINGARTNER, DAVID PETER, Ph.D. (Michigan State University)
Associate Professor (Associate Plant Pathologist), IFAS, Agricultural Research Center, Hastings (1969-1975).

WEINSHELBAUM, ARLENE M., M.D. (University of Chicago)
Assistant Professor of Radiology, VAH (1973-1973).

WEISMANTEL, WILLIAM LOUIS, LL.B. Ph.D. (Harvard Law School) Ph.D. (Harvard University)
Professor of Urban and Regional Planning (1975-1975).

WEISS, DAVID, LL.B. (Harvard University)
University Law Librarian (1969-1975).

WELCH, PAULA DEE, Ed.D. (University of North Carolina)
Associate Professor of Professional Physical Education (1974-1979).

WELDY, PARK L., D.M.D. (University of Florida)
Assistant Professor of Community Dentistry, College of Dentistry (1976-1976).

WELLBORN, CHARLES G., JR., M.A.
Professor of Journalism and Communications (1966-1976).

WELLS, EDWARD L., B.F.A.
Assistant in Broadcasting in Journalism and Communications (1969-1973).

WELSCH, BOYD B., D.M.D. (University of Florida)
Assistant Professor of Occlusion and Fixed Prosthodontics, College of Dentistry (1977-1977).

WELSCH, WALTER ROLAND, M.Ed.
Professor of Physical Education and Assistant Track Coach (1954-1979).

WELTNER, WILLIAM, JR., Ph.D. (University of California)
Professor of Chemistry (1966-1966).

WENZEL, EVELYN L., Ed.D. (Columbia University)
*Professor of Education (1958-1970).**

WERNER, LINDA L., D.V.M. (Ohio State)
Assistant Professor, Department of Medical Sciences, College of Veterinary Medicine (1977-1977).

WEST, FRED E., Ph.D. (University of Iowa)
Visiting Assistant Professor of Allied Health Program (1976-1979).

WEST, GWENETH LUCRETIA, M.F.A. (University of Texas)
Assistant Professor of Theatre (1976-1976).

WEST, ROGER L., Ph.D. (Texas A&M University)
Associate Professor, (Associate Animal Scientist), (1973-1978).

WEST, SHERLIE HILL, Ph.D. (University of Illinois)
Professor (Agronomist) IFAS (1972-1979).

WESTFALL, MINTER JACKSON, JR., Ph.D. (Cornell University)
Professor of Zoology and Entomology (1947-1969).

WESTIN, ROBERT H., Ph.D. (Pennsylvania State University)
Associate Professor of Art and Chairperson of the Department of Art (1978-1978).

WESTON, EDWARD G., Ph.D. (Florida State University)
*Associate Professor of Journalism and Communications (1970-1977).**

WETHINGTON, JOHN ABNER, JR., Ph.D. (Northwestern University)
Professor of Nuclear Engineering Sciences (1954-1960).

WETTERQVIST, ORJAN FREDERICK, M.A. (Royal Inst. of Tech.)
Associate Professor of Urban and Regional Planning (1969-1974).

WEYRAUCH, WALTER OTTO, J.S.D. (Yale University)
Professor of Law (1957-1960).

WHAN, ALEXANDER R., M.B.A. (George Washington University)
Director of Clinical Services, Shands Teaching Hospital & Clinics (1977-1977).

WHEATON, THOMAS ADAIR, Ph.D. (University of California)
Associate Professor (Associate Horticulturist), IFAS, Agricultural Research and Educational Center, Lake Alfred (1963-1970).

WHEELER, SALLY W., B.A. (Trinity University)
Systems Coordinator (1977-1977).

WHEELER, WILLIS, Ph.D. (Pennsylvania State University)
Professor, (Biochemistry), IFAS (1966-1978).

WHIDDON, NANCY SUE, Ed.D. (Florida Atlantic University)
Associate Professor of Professional Physical Education (1972-1979).

WHITCOMB, WILLARD HALL, Ph.D. (Cornell University)
Professor of Entomology (Entomologist), IFAS (1967-1967).

WHITE, ARTHUR O., Ed.D. (New York, Buffalo)
Associate Professor of Education (1970-1975).

WHITE, CALVIN E., Ph.D. (University of Arkansas)
Assistant Professor, (Assistant Animal Nutritionist), IFAS Agricultural Research Center, Live Oak (1978-1978).

WHITE, CLEMENTINE BERTHA, M.M. (Oberlin College)
Associate Professor of Music (1966-1975).

WHITE, FRANKLIN HENRY, Ph.D. (University of Illinois)
Professor (Bacteriologist), College of Veterinary Medicine, IFAS (1955-1967).

WHITE, GERALD, B.A. (Universlty of Wisconsin)
Assistant Director of University Hospital, Cost and Price Analysis, Shands Teaching Hospital, (1979-1979).

WHITE, JAMES MARION, Ph.D. (Ohio State University)
Assistant Professor (Assistant Horticulturist), IFAS, Agricultural Research and Educational Center, Sanford (1974-1974).

WHITE, KEITH D., Ph.D. (Brown University)
Assistant Professor of Psychology (1976-1976).

WHITE, NEIL L., Ph.D. (Harvard)
Assistant Professor of Mathematics (1973-1973).

WHITE, TONY ROBERT, M.A.E. (Oklahoma State University)
Assistant Professor of Architecture (1969-1973).

WHITEHEAD, WILLIAM J.,
Assistant in Engineering in Civil Engineering (1968-1975).

WHITESIDE, JACK OLIVER, Ph.D. (University of London)
Professor (Plant Pathologist), IFAS, Agricultural Research Educational Center, Lake Alfred (1967-1973).

WHITLEY, ESTOYA WILLIA, M.A. (Appal St. University)
University School Assistant Professor, P. K. Yonge Laboratory School (1958-1978).

WHITNEY, ELLSWORTH DOW, Ph.D. (New York University)
Professor of Materials Science and Engineering (1970-1975).

WHITNEY, JODIE DOYLE, Ph.D. (University of Oklahoma)
Associate Professor (Associate Agricultural Engineer) IFAS, Agricultural Research and Educational Center Lake Alfred (1965-1972).

WHITTINGTON, RICHARD M., M.D. (Jefferson Medical College)
Assistant Dean for VA Hospital Relations, Chief of Staff, Gainesville VAH, Professor of Medicine (1976-1976).

WHITTY, ELMO BENJAMIN, Ph.D. (North Carolina State University)
Professor (Agronomist), IFAS (1966-1979).

WHITWORTH, JAY M., M.D. (Indiana University)
Assistant Professor of Pediatrics (JHEP) (1972-1972).

WHORTON, JAMES E., Ed.D. (Colorado State University)
Associate Professor of Education (1969-1974).

WICKES, FRANK BOVEE, M.M. (University of Michigan)
Associate Professor of Music and Director of Bands (1973-1977).

WICKWIRE, NANN A., D.D.S. (University of Maryland)
Professor and Chairwoman of Orthodontics, College of Dentistry (1974-1974).

WIGGINS, J. ARDENE, B.S. (University of Florida)
Vice President of Development and Alumni Affairs (1971-1978).

WILCOX, CHARLES JULIAN, Ph.D. (Rutgers University)
Professor (Geneticist), IFAS (1959-1971).

WILCOX, MERRILL, Ph.D. (North Carolina State University)
Professor (Agronomist), IFAS (1960-1973).

WILDER, BUNA J., M.D. (Duke University)
Professor of Neurology and Neuroscience, VAH (1962-1973).

WILDT, ALBERT R., Ph.D. (Purdue University)
Associate Professor of Marketing (1971-1976).

WILENSKY, NORMAN MARVIN, Ph.D. (Yale University)
Associate Professor of History (1962-1969).

WILFRET, GARY JOE, Ph.D. (University of Hawaii)
Associate Professor (Associate Geneticist), IFAS, Agricultural Research and Educational Center, Bradenton (1969-1974).

WILHELM, HORST E., Ph.D. (Technical University of Stuttgart)
Professor of Engineering Sciences (1978-1978).

WILKIE, WILLIAM L., Ph.D. (Stanford University)
Professor of Marketing (1974-1977).

WILKINSON, ROBERT CLEVELAND, Ph.D. (University of Wisconsin)
Professor (Entomologist), IFAS (1960-1971).

WILKOWSKE, HOWARD HUGH, Ph.D. (Iowa State University)
Professor (Dairy Technologist) and Assistant Dean for Research, IFAS (1950-1968).

WILLARD, DEL, M.S. (Western Reserve University)
Instructor in Mathematics (1960-1960).

WILLARD, JOHN M., B.A. (Amherst College)
Systems Coordinator (1979-1979)

WILLETT, CHARLES, M.S. (Simmons College)
Librarian and Chairman of Acquisitions Department (1978-1978).

WILLIAMS, AUBREY LAKE, Ph.D. (Yale University)
Graduate Research Professor of English (1958-1961).

WILLIAMS, CHARLES A., M.D. (University of Florida)
Instructor and Medical Director of Sunland Training Center (1978-1978).

WILLIAMS, CHARLES STANLEY, M.S. (Western Kentucky University)
Instructor of Physical Education (1972-1972).

WILLIAMS, CHARLES STANLEY, Ed.D. (University of Alabama)
Assistant Professor (Extension 4-H Youth Specialist), IFAS (1977-1977).

WILLIAMS, CLYDE M., Ph.D. (Oxford Univ.) M.D. (Baylor Univ.)
Professor and Chairperson, Radiology (1960-1965).

WILLIAMS DAVID D., Ph.D. (Univ. of Florida)
*Assistant Professor, College of Nursing (1970-1975).**

WILLIAMS, DONALD EDWARD, Ph.D. (Northwestern University)
Professor of Speech (1959-1977).

WILLIAMS, EMMET LOUIS, Ph.D. (George Peabody College for Teachers)
Professor of Education and Associate Dean, College of Education (1964-1970).

WILLIAMS, HIRAM D., M.Ed. (Pennsylvania State University)
Professor of Art (1960-1968).

WILLIAMS, KATHRYN R., Ph.D. (Florida State University)
Associate in Chemistry (1979-1979).

WILLIAMS, NANCY LYNNE, M.S.L.S.
Associate Librarian, Catalog (1971-1977).

WILLIAMS, PAMELA D., M.S. (Florida State University)
Associate Law Librarian (1973-1979).

WILLIAMS, ROBERT E., M.A., M.E. (University of Florida)
Director of Computer Operations, Shands Teaching Hospital & Clinics (1970-1977).

WILLIAMS, WILLIAM N., Ph.D. (University of Florida)
Associate Professor of Basic Dental Sciences, College of Dentistry, and Associate Professor of Communicative Disorders, College of Health Related Professions (1969-1976).

WILLIAMS, WINTON E., LL.M. (Yale)
Professor of Law (1969-1977).

WILLMORE, LUTHER J., M.D. (St. Louis University)
Associate Professor of Neurology, VAH (1975-1979).

WILLOCKS, R. MAX, M.L.S. (Peabody College)
Associate Director of Libraries (1976-1976).

WILMOT, DAVID L., M.A. (Columbia University)
Professor of Music (1962-1968).

WILSON, DAVID C., Ph.D. (Rutgers)
Associate Professor of Mathematics (1972-1973).

WILSON, HAROLD ARNOLD, Ph.D. (University of Iowa)
Associate Professor of Social Sciences and History (1958-1967).

WILSON, HENRY RUSSELL, Ph.D. (University of Maryland)
Professor (Poultry Physiologist), IFAS (1962-1974).

WILSON, JENNET MAE, M.A. (Columbia University)
Associate Professor, College of Nursing (1957-1975).

WILSON, MARGARET E., M.N. (University of Florida)
Assistant Professor, College of Nursing (1977-1977).

WILSON, ROBERT EDWIN, Ph.D. (University of Pennsylvania)
Professor of Astronomy (1979-1979).

WILSON, WILLIAM W., M.F.A. (Chicago Art Institute)
Assistant Professor of Art (1979-1979).

WILTBANK, WILLIAM JOSEPH, Ph.D. (University of Florida)
Professor (Horticulturist), IFAS (1968-1979)

WINARSKY, IRA HAROLD, M.F.A. (Temple University)
Associate Professor of Architecture (1972-1976).

WINEFORDNER, JAMES DUDLEY, Ph.D. (University of Illinois)
Graduate Research Professor of Chemistry (1959-1976).

WING, ELIZABETH S., Ph.D. (University of Florida)
Curator of Zooarchaeology, Florida State Museum, Joint Professor of Anthropology and Zoology (1961-1973).

WING, JAMES MARVIN, Ph.D. (Iowa State University)
Professor (Animal Physiologist), IFAS (1951-1966).

WINOKUR, CHARLOTTE, B.S. (University of Connecticut)
Visiting Assistant Professor of Physical Therapy (1977-1977).

WISLEY, PHILLIP PAUL, M.A. Arch. (University of Florida)
Assistant Professor of Architecture (1976-1976).

WITTKOPF, BARBARA JEAN, M.S.L.S.
Associate Librarian, Reference and Bibliography (1970-1975).

WITTKOPF, EUGENE R., Ph.D. (Syracuse University)
Associate Professor of Political Science (1970-1975).

WITTMER, PAUL JOSEPH, Ph.D. (Indiana State University)
Professor and Chairperson, Department of Counselor Education (1968-1973).

WOESTE, JOHN THEODORE, Ph.D. (University of Wisconsin-Madison)
Professor, Dean for Cooperative Extension Services, IFAS (1976-1976).

WOLCOTT, WILLA JOAN, M.A. (University of Denver)
Instructor, Office of Instructional Resources (1976-1976).

WOLF, E. DANIEL, D.V.M. (Ohio State University)
Assistant Professor, Department of Special Clinical Sciences, College of Veterinary Medicine (1979-1979).

WOLF, EMIL ANDREW, M.S. (Purdue University)
Professor (Horticulturist), IFAS, Agricultural Research and Education Center, Belle Glade (1948-1966).

WOLFF, RONALD G., Ph.D. (University of California)
Associate Professor of Zoology (1973-1978).

WOLFSON, MORTON, M.Ed. (University of Florida)
Assistant Professor of Behavioral Studies, Adviser (1965-1968).

WOLKING, WILLIAM, Ph.D. (University of Minnesota)
*Professor of Education (1961-1973).**

WOLTZ, SHREVE SIMPSON, Ph.D. (Purdue University)
Professor (Plant Physiologist), IFAS, Agricultural Research and Educational Center, Bradenton (1953-1968).

WOOD, CHARLES H., Ph.D. (University of Texas at Austin)
Assistant Professor of Sociology (1977-1977).

WOOD, FRANCIS ALOYSIUS, Ph.D. (University of Minnesota)
Professor (Plant Pathologist), and Dean for Research Administration, IFAS (1977-1977).

WOOD, FRANK BRADSHAW, Ph.D. (Princeton University)
Professor of Astronomy, Director of Optical Observatories (1968-1968).

WOOD, KATHLEEN E., M.S. (Oregon State University)
Assistant Professor, Extension Household Equipment Specialist (1977-1977).

WOODARD, JAMES C., D.V.M. (Auburn University), Ph.D. (M.I.T.)
Professor Division of Comparative Pathology, College of Veterinary Medicine, (1958-1979).

WOODHAM, BRANAN, M.Ed. (Auburn University)
Assistant Director of Housing for Residence Life, Housing (1977-1978).

WOODRUFF, WILLIAM, D.Phil. (University of Nottingham)
Graduate Research Professor of Economic History and Professor of Economics (1966-1968).

WOODS, CHARLES A., Ph.D. (University of Massachusetts)
Chairman and Associate Curator of Mammology, Florida State Museum (1979-1979).

WOODS, CHARLES T., M.A. (University of Florida)
Associate Professor, (Associate Editor), IFAS (1966-1978).

WOODSON, R. D., J.D. (University of Florida)
Assistant in Law Research (1976-1976).

WOODWARD, EDWARD R., M.D. (University of Chicago)
Professor and Chairperson, Department of Surgery (1957-1957).

WORKMAN, RALPH B., JR., Ph.D. (Oregon State University)
Associate Professor (Associate Entomologist), IFAS, Agricultural Research Center, Hastings (1958-1967).

WORLEY, JACK D., M.Ed. (University of Miami)
Assistant Director of Housing for Residence Life, Housing (1978-1978).

WRAGGE, JOHN H., Ph.D. (University of Houston), C.P.A. (Illinois)
Assistant Professor of Accounting (1975-1975).

WRIGHT, DAVID LEE, Ph.D. (Virginia Poly. Institute & State University)
Assistant Professor (Assistant Agronomist), IFAS, Agricultural Research and Education Center, Quincy (1977-1977).

WRIGHT, ROGERT G., Ph.D. (University of Kansas)
Associate Professor of Education (1970-1976).

WROE, MARTHA, M.A. (Stanford University)
Associate Professor of Physical Therapy and Neurology (1959-1970).

WYATT, JOHN WALTON, S.J.D. (George Washington University)
Professor of Business Law (1948-1956).

WYNNE, JAMES W., M.D. (Cornell University)
Associate Professor of Medicine and Anesthesiology, Chief of Pulmonary Services, Coordinator of Medical Intensive Care Unit and Director of Pulmonary Functions Lab (1973-1978).

YANG, MARK CHAO-KUEN, Ph.D. (University of Wisconsin)
Associate Professor of Statistics (1970-1975).

YATES, EDWARD D., M.A.
Associate Professor of Journalism and Communications (1965-1976).

YELLEN, VICTOR M., M.S. (Auburn University)
Assistant to the Vice President for Academic Affairs (1970-1972).

YELLIN, JANICE W., Ph.D. (Brandeis University)
Assistant Professor, Art (1979-1979).

YEN, ALIVE BING, M.S.L.S.
Associate Librarian, Catalog (1966-1972).

YII, ROLAND, Ph.D. (University of Pennsylvania)
Research Scholar/Scientist of Electrical Engineering; Elgin AFB (1968-1976).

YOH, R. W., Ph.D. (SUNY)
Assistant Professor of Mathematics (1972-1973).

YORTON, JOAN BANNISTER, Ph.D. (University of Florida)
Instructor in Geography and Physical Sciences (1967-1970)

YOST, RICHARD ALAN, Ph.D. (Michigan State University)
Assistant Professor of Chemistry (1979-1979).

YOST, RICHARD LEE, Pharm.D. (Philadelphia College of Pharmacology and Science)
Associate Professor of Pharmacy (1974-1979).

YOUNG, CHARLES JOHN, JR., M.S. (University of Florida)
Associate Director, NERDC (1971-1976).

YOUNG, D. MICHAEL, M.D., (Duke University)
Professor and Chairperson of Biochemistry and Molecular Biology and Professor of Medicine (1979-1979).

YOUNG, DAVID G., Ph.D. (University of Florida)
Assistant Research Scientist, IFAS (1976-1978).

YOUNG, JERALD WAYNE, Ph.D. (Yale University)
Associate Professor of Management (1974-1979).

YOUNG, MARTIN D., Sc.D. (Johns Hopkins University)
Research Professor, Department of Preventive Medicine, College of Veterinary Medicine, (1974-1975).

YOUNG, MICHAEL FRANCIS, Ph.D. (Ohio University)
Assistant Professor of Interior Design (1977-1977).

YOUNG, MICHAEL J., Ph.D. (Washington State University)
Associate Professor (Associate Horticulturist) (1974-1979).

YOZGATLIOGLU, CUNEYT A., M.D. (University of Istanbul)
University Psychiatrist (1963-1963).

YU, SHIH CHENG, Ph.D. (University of Iowa)
Professor of Accounting (1967-1968).

YUAN, TZU LIANG, Ph.D. (Ohio State University)
Professor of Soil Science (Soil Chemistry) IFAS (1955-1972).

ZABLOTOWICZ, ROBERT M., Ph.D. (University of California)
Assistant Professor (Assistant Soil Microbiologist), IFAS, Agricultural Research and Education Center, (1979-1979).

ZACHARIAH, GERALD L., Ph.D. (Purdue University)
Professor and Chairperson, Agricultural Engineering, IFAS (1975-1975).

ZAHN, MARKUS, Sc.D. (Massachusetts Institute of Technology)
Professor of Electrical Engineering (1970-1978).

ZAM, STEPHEN G., III, Ph.D. (University of Southern California)
Associate Professor, Microbiology and Cell Science, IFAS (1966-1966).

ZARANTONELLO, S.E., Ph.D. (University of Wisconsin)
Assistant Professor of Mathematics (1972-1973).

ZAUNER, CHRISTIAN WALTER, Ph.D. (Southern Illinois University)
Professor of Professional Physical Education and Professor of Medicine (1965-1971).

ZEIGLER, C. DAWSON, M.S.B.C. (University of Florida)
*Associate Professor of Building Construction (1960-1975).**

ZEMAN, JOSEPH JAY, Ph.D. (University of Chicago)
Professor of Philosophy (1966-1973).

ZETTLER, FRANCIS WILLIAM, Ph.D. (Cornell University)
Professor (Plant Pathologist), IFAS (1966-1976).

ZEULI, LOUISE B., MSN, (University of Florida)
Instructor, College of Nursing (1979-1979).

ZILLER, ROBERT C., Ph.D. (University of Michigan)
Professor of Psychology (1970-1970).

ZIMPFER, WALTER HENRY, M.S. (Rutgers University)
*Associate Professor of Civil Engineerig (1950-1956).**

ZOLTEK, JOHN, JR., Ph.D. (California Institute of Technology)
Associate Professor of Environmental Engineering Sciences (1972-1976).

ZOLTEWICZ, JOHN ANDREW, Ph.D. (Princeton University)
Professor of Chemistry (1963-1973).

ZORNETZER, STEVEN F., Ph.D. (University of California)
Associate Professor of Neuroscience and Chairman, Phase A

ZUMBO, JAMES MARK, M.M. (University of Michigan)
Associate Professor of Music (1969-1974)

ZWEIG, MARILYN B., Ph.D. (University of Rochester)
Associate Professor of Philosophy (1966-1977).

UNIVERSITY OF FLORIDA AGRICULTURAL EXTENSION SERVICE COUNTY AND HOME ECONOMICS AGENTS 1980-1981

AALBERG, RICHARD M., M.S.
County Extension Director (II), Manatee County (1975-1976).

ALEXANDER, CLINK, M.S.
Extension Agent-Agronomy (I), Madison County (1975-1975).

ALLEN, EDWARD, M.S.A.
Extension Agent (III), Ornamentals, (1960-1969).

ALSTON, ARTHUR DEAN, M.Ag.
County Extension Director (II), Citrus County (1970-1977).

ANDERSON, MAE MILLAR, B.S.
Extension Home Economics Agent (II), Madison County (1963-1969).

ANDERSON, MARY ETHEL, M.S.
Extension Home Economics Agent (III), Columbia County (1969-1977).

ANDREWS, RANCE ADAMS, B.S.A.
County Extension Director (II), Hamilton County (1953-1955).

ANGELL, NANCY L., M.S.
Extension Agent (I) Home Economics-Enp, Palm Beach County (1978-1978).

ANTHONY, LAGRANT, B.S. (Iowa State)
Extension Agent (I), 4-H, Hillsborough County (1979-1979).

ARNOLD, JOHN E., M.S.
Extension Agent (I) Pest Management, MC, Jackson County (1978-1978).

AYERS, ALICE M. BLACKBURN, M. Ret.
Extension Agent 4-H (II), Lake County (1968-1971).

BALDWIN, JOHN ALLEN, M.S.A.
County Extension Director (II), Levy County (1973-1978).

BARBER, LINDA B., M.S.
Extension Home Economics Agent (III), Calhoun County (1971-1979).

BARGE, JANICE W., M.S.
Extension Agent (I), Home Economics, Pinellas County (1977-1977).

BARMBY, BRUCE ALAN, M.S.
*Extension Agent, Ornamentals & Vegetables (III), Orange County (1958-1969).**

BARNES, MARVIN, B.S.
Extension Agent-4-H (I), Jackson County (1975-1975).

BARNETT, BEVERLY J., B.S.
Extension Agent (I) Home Economics, Sumter County (1978-1978).

BASS, BERNICE ODELL, M.S.A.
County Extension Director (III), Glades County (1956-1971).

BEHNKE, MICHAEL A., M.S.
Extension Agent (I), Ornamental Horticulture, Polk County (1978-1978).

BENTLEY, DICKI DRESBACH, B.S.
Extension Home Economics Agent 4-H (II), Gadsden County (1966-1976).

BIZETTE, JUSTINE LAMBERT, B.S.H.E.
Extension Home Economics Agent (II), Dade County (1961-1969).

BOARD, SARAH MOORE, B.S.H.E.
Extension Home Economics Agent (II), Duval County (1970-1978).

BOND, SHIRLEY REBECCA, M.S.
Extension 4-H Agent (III), Pinellas County (1973-1978).

BOSS, FREDERICK EARL, M.A.
Extension Agent, Livestock (II), Palm Beach County, (1971-1971).

BOWMAN, LINDA KAY, M.S.
Extension Home Economics Agent (II), Escambia County (1973-1978).

BRACHHOLD, LINDA J., B.S.
Extension Agent, Ornamentals (I), Volusia County, (1976-1976).

BRADDOCK, THOMAS HANSEN, M.S.A.
County Extension Director (III), Duval County (1957-1969).

BRASHER, CHARLES LUTHER, M.S.
Extension Agent (I) FAMU, Jackson County (1974-1974).

BRENNEMAN, JOHN, M.A.
Extension Agent Dairy (I), Polk County (1972-1976).

BRITTON, TAMER LAVERNE, M.Ed.
Extension Home Economics Agent (II), Enp Duval County (1972-1972).

BROCK, MARGUERITE RISH, B.S.H.E.
*Extension Agent (II), St. Lucie County (1946-1962).**

BROCK, REBECCA, B.S.
Extension Agent (I), Home Economics, Highlands County (1977-1977).

BROOKS, LEON R., M.E.D.
Extension Agent (I), Agriculture and Community Resource Development, Madison County (1974-1974).

BROWN, NETTIE RUTH, B.S.H.E.
Extension Agent 4-H (III), St. Johns County (1960-1969).

BROWN, WILLIAM I., M.S.
County Extension Director (I), Gilchrist County (1975-1975).

BULLINGTON, DANNY M., M.S.
Extension Agent (I), 4-H Livestock, Levy County (1977-1977).

BURGESS, RAYMOND HUNTER, M.S.A.
County Extension Director (III), Hendry Country (1962-1969).

BURKE, PATRICIA A., B.S.
Extension Agent (I), 4-H, Alachua County (1977-1977).

BURNHAM, MARCIA M., B.S. (University of Maine)
Extension Agent (I), 4-H Coordinator, Putnam County (1979-1979).

CAMERON, JOSEPHINE MOORE, M.Ag.
*Extension Home Economics Agent (III), Polk County (1953-1969).**

CANTY, BESSIE JACKSON, M.S.
Extension Home Economics Agent (III), Duval County (1963-1972).

CARR, HORACE MIXON, B.S.A.
County Extension Director (II), Bay County (1951-1951).

CHAMPAGNE, ROY JEAN, M.S.
Extension Agent—Poultry (III), Dade County (1953-1969).

CHANDLER, ISAAC, JR., B.S.
Extension Agent (II), Hamilton County (1952-1963).

CHRISTENBERRY, LAMAR, M.S.
County Extension Director (II), Liberty County (1976-1979).

CLARK, SHIRLEY T., B.S.
Extension Home Economics Agent (III), Gadsden County (1974-1979).

CLARK, VIRGINIA CARR, B.S.H.E.
*Extension Home Economics Agent (II), Walton County (1953-1960).**

COBB, LEONARD CLARENCE, M.Ag.
County Extension Director (IV), Jackson County (1951-1969).

COKER, BRENDA JO, B.S.
Extension Home Economics Agent (II), Okeechobee County (1974-1978).

COLEMAN, DENISE L., M.S.
Extension Home Economics Agent (I), Collier County (1974-1974).

COLLINS, LEALA REAVES, B.S.
Extension Home Economics Agent (II), Orange County (1953-1969).

COLLINS, WILLIAM EARL, B.S.A.
Extension Agent (I), Livestock, Jackson County, (1951-1963).

COOMBS, VIRGINIA HILL, B.S.
Extension Home Economics Agent—4-H (II), Hillsborough County (1954-1969).

COTTON, CHARLA J., M.S.
Extension Agent-Home Economics (II), Okaloosa County (1975-1975).

COWEN, EDWARD J., M.Ag.
County Extension Director (IV), Escambia County (1955-1977).

CUMMINGS, JAMES FREDERICK, M.Ag.
Extension Agent (II), Broward County (1961-1969).

CURTIS, ROBERT GEORGE, B.S.A.
County Extension Director (III), Lee County (1952-1970).

DAIGLE, LOUIS JOHN, M.Ag.
Extension Agent (III), Ornamentals, Dade County (1960-1970).

DALTON, JOSEPH DAVID, Ph.D. (University of Massachusetts)
Extension Agent (IV) Soils, Dade County (1961-1975).

DAVIS, DORIS G., B.S.
Extension Agent (I), Home Economics, Brevard County (1977-1977).

DEARMIN, LINDA L., M.S. (University of Tennessee)
Associate Professor (Extension 4-H-Youth Specialist), IFAS (1970-1975).

DAVID, HENRY PITTMAN, B.S.A.
County Extension Director (III), Taylor County (1950-1954).

DAVIS, JOHNNIE EVERETT, M.Ag.
County Extension Director (III), Washington County (1948-1969).

DAVIS, ROBERT MARION, M.Ag.
County Extension Director (III), Polk County (1960-1969).

DAWKINS, MONICA A., B.S.
Extension Agent (I), 4-H, Enp. Dade County (1979-1979).

DAWSON, ALBERT DOUGLAS, M.Ag.
County Extension Director (III), Hernando County (1966-1969).

DEMAREE, MICHAEL E., M.S.A.
County Extension Director (III), Pasco County (1966-1979).

DEROSIA, JUDITH T., B.S.
Extension Agent (I), 4-H, Columbia County (1978-1978).

DILBECK, JAMES DAVID, M.S.
County Extension Director (III) Vegetables, Multi-County (1969-1975).

DONAHOE, MICHAEL C., M.S.
Extension Agent (I), Pest Management, Multi-County (1977-1977).

DORSCHEL, DUSKA MCCANN, M.S.H.E.
Extension Home Economics Agent (II), Duval County (1973-1978).

DURDEN, BOBBY RAY, M.Ag.
County Extension Director (III), Wakulla County (1961-1968).

DURRANCE, JO E., M.S.
Extension Agent (I), Livestock, Pest Management, Sarasota County (1978-1978).

ELMORE, ANNIE SUE, M.S.
Extension Home Economics Agent (II), Washington County (1960-1960).

ELMORE, JOAN P., B.S. (Auburn University)
Extension Agent (I), 4-H, Enp, Jackson County (1979-1979).

ESTES, JAMES BARRY, M.Ag.
County Extension Director (III), Franklin County (1958-1969).

FARRELL, ELVA L., B.S.
Extension Agent-4-H Coordinator (I), Sarasota County (1976-1976).

FEINBERG, SYDNEY P., B.S.
Extension Agent (I), Horticulture and Water Management, Hillsborough County (1979-1979).

FINK, WILLARD, M.A.
County Extension Director (I), Union County (1975-1975).

FISHER, JEFFREY A., M.S.
Extension Agent (I) Map, Multi-County, Bay County (1975-1975).

FLEMING, HELEN H., M.S.
Extension Agent (III), Home Economics, Hernando County (1975-1979).

FLOYD, LESTER C., B.S.
Extension Agent 4-H (III), Orange County (1972-1979).

FOWLER, RUTH ANN, M.S.
Extension Home Economics Agent (III), Hillsborough County (1975-1975).

FROEDGE, ERNIE M., M.S.
Extension Agent (I) 4-H, Manatee County (1978-1978).

FULLER, ALBERT E., B.S.
Extension Agent (I), 4-H, Jefferson County (1977-1977).

FULLER, HENRY A., M.S.
Extension Agent (I), Orn. Horticulture, Escambia County (1977-1977).

FULMER, ELIZABETH H., M.A.
Extension Agent (I) 4-H, Manatee County (1975-1975).

FULMER, JUDSON TODD, M.Ed.
*County Extension Director (II), Nassau County (1957-1966).**

GARDNER, VIRGINIA DICKENS, B.S.H.E.
Extension Home Economics Agent (III), Pinellas County (1951-1979).

GEORGE, DONALD ATKINSON, B.S.A.
County Extension Director (II), Sumter County (1954-1969).

GERSHMAN, BARBARA F., B.S.
Extension Agent (I), CRD, Hernando County, (1978-1978).

GEYER, KLAUS, B.S.
Extension Agent-Horticulture (I), Pinellas County (1975-1975).

GIFFORD, DOROTHY YOUNG, B.S.
Extension Home Economics Agent (II), Broward County (1962-1967).

GLASSCOCK, PAUL EDWIN, B.S.
Extension Agent — Dairying (II), Hillsborough County (1957-1969).

GODBOLD, THOMAS JESSE, B.S.A.
County Extension Director (II), Clay County (1963-1969).

GOLDWEBER, SEYMOUR, B.S.
Extension Agent — Fruit Crops Multi-County (III) (1960-1969).

GRANT, HENRY G., M.S.
Extension Agent (II), F.A.M.U. Gadsden County (1973-1973).

GRAVELY, MURIEL J., M.S.
Extension Agent (I), Home Economist, Hamilton County (1979-1979).

GRIFFIS, RALEIGH SIDNEY, M.Ag.
Extension Agent (III), Vegetables and Flowers, Palm Beach County (1949-1970).

GRIGGS, MAX E., M.Ag.
Extension Agent-Soils & Agronomy (I), Escambia County (1976-1976).

HALSEY, LARRY A., M.S.
County Extension Director (III), Jefferson County (1976-1979).

HAMMER, MARIE SPEYRER, M.H.Ec.Ed. (University of Arizona)
Associate Professor (Extension Home Economist-Enp), IFAS (1969-1975).

HALUSKY, MARILYN J., B.S.
Extension Home Economics Agent (II), Wakulla County (1969-1973).

HANCOCK, BRENDA JO, M.S.
Extension Agent Home Economics Program Leader (I), Holmes County (1976-1976).

HARPER, EMILY G., B.S.
Extension Home Economics Agent (II), Clay County (1966-1972).

HARRINGTON, BEVERLY B., B.S.
Extension Home Economics Agent (II), Palm Beach County (1973-1978).

HAUSER, GRACE ROBERTS, B.S.
Extension Agent-Home Economics (II), Dade County (1970-1976).

HAYMAN, JACK CARLTON, M.Ag.
County Extension Director (III), Hardee County (1953-1969).

HEBERT, OSCAR JOSEPH, JR., M.S.
Extension Agent (III), County Extension Director, Orange County (1967-1979).

HEDGE, SUSAN L., M.S.
Extension Agent-Home Economics (I), Lee County (1976-1976).

HENDRICKSON, NANCY L., B.S.
Extension Agent (I), Home Economics, Hendry County (1978-1978).

HEITMEYER, LAWRENCE ALAN, M.S.
Extension Agent (II), 4-H, Leon County (1973-1973).

HENRY, BRENT W., B.S.
Extension Agent (I), 4-H, Manatee County, (1979-1979).

HENRY, GEORGE COLBERT, JR., M.Ed.
Extension Agent (II), Leon County (1972-1978).

HINTON, CHARLES FRANKLIN, III, Ph.D. (University of Florida)
Extension (Poultry) Multi-County (II), Hillsborough County (1972-1972).

HODYSS, LORETTA B., M.S.
Extension Agent (I), Ornamental Horticulture Palm Beach County (1979-1979).

HOLLOWAY, DONALD L., Ms.S. (Brigham Young University)
Extension Agent (I), 4-H Coordinator, Holmes County (1979-1979).

HULL, DEARMAND L.R., M.S.
Extension Agent, Ornamentals (II), Palm Beach County (1971-1978).

HUMPHRYS, BROOKS, M.S.
Extension Agent (Citrus) (II), Multi-County (1974-1974).

HURNER, GEORGE TIMOTHY, JR., M.S.
County Extension Director (II), Highlands County (1965-1965).

HUTCHESON, CLAYTON ELBERT, M.S.
County Extension Director (III), Palm Beach County (1970-1976).

IVERSON, MARLOWE KEITH, M.S.
Extension Agent (I)-Horticulture & 4-H Manatee County (1974).

JACKSON, ELIZA MOXLEY, B.S.H.E.
Extension Home Economics Agent (II), Bay County (1962-1962).

JACKSON, JOHN LESLIE, JR., M.Ag.
Extension Agent (III) Citrus, Multi-County (1968-1971).

JASA, FRANK JOSEPH, B.S.A.
County Extension Director (II), Seminole (1957-1969).

JENSEN, NAN, M.S.
Extension Home Economics Agent (1), Pinellas County (1975-1975).

JETER, ANN PIERCE, B.S.
Extension Home Economics Agent (III), Okaloosa County (1956-1969).

JONES, ARLEN CUNNINGHAM, B.S.H.E.
Extension Home Economics Agent (III), Palm Beach County (1963-1970).

JONES, DELORIS MAE, B.S.
Extension Home Economics Agent (II), Madison County (1960-1969).

JONES, HAROLD CHARLES, M.A.
Extension Agent (Ornamentals) (II), Duval County (1971-1971).

JOWERS, HENRY EDGAR, M.S.
Extension Agent (II), County Extension Director, Madison County (1971-1979).

KASTAN, CHRISTINE A., B.S.
Extension Agent (I), 4-H, ENP, Broward County (1978-1978).

KELLY, MICHAEL G., M.S.
Extension Agent, Dairy-Multi-County (I), Duval County (1976-1976).

KERSEY, ALIVE P., M.S.
Extension Agent-4-H (III), Polk County (1967-1976).

KLATT, ELAINE THERESE, M.S.
Extension Home Economics Agent (I) ENP, Broward County (1974-1974).

KUBIAK, VICKI, B.S.
Extension Agent 4-H, (I) Suwannee County (1978).

LANDER, DONALD WILSON, M.A.
County Extension Director (IV), Collier County (1950-1970).

LAWLOR, FRANK J., M.S. (Texas A&M University)
Extension Agent (I), MAP, Palm Beach County (1976-1976).

LISTER, OPAL, B.S.
Extension Home Economics Agent (I), Escambia County (1975-1975).

LLEWELLYN, WILLIAM R., M.S.A.
Extension Agent (II), Broward County (1973-1973).

LOADHOLTZ, JOSEPH LOWELL, M.A.
County Extension Director (IV), Brevard County (1961-1971).

LOADHOLTZ, LARRY LEWIS, M.S.
County Extension Director (III), Volusia County (1961-1970).

LOVEJOY, LINDA J., M.S.
Extension Agent (I) Home Economist, Brevard County (1979-1979)

LOWERY, CHARLIE AVERY, M.S.
Extension Agent (I) 4-H-Ornamentals, Collier County (1974-1974).

MACCUBIN, THOMAS J., M.S.
Extension Agent Horticulture (III), Orange County (1972-1976).

MARSHALL, DAVID W., M.S.
Extension Agent-Ornamentals (I), Leon County (1976-1976).

MARTIN, JULIANN STOUGH, B.S.
Extension Home Economics Agent (II), ENP 4-H, Polk County (1974-1979).

MASTERYANNI, JANITH, M.S.
County Extension Agent (III), County Extension Director, Charlotte County, (1974-1979)

MCCALL, JAMES C., M.S.
County Extension Director (III), St. Lucie County (1961-1976).

MCCOY, SANDRA LEE, B.S.
Extension Home Economics Agent (II), ENP Duval County (1973-1973).

MCDANIEL, MILTON C., M.S.
Extension Agent (I), Livestock, Volusia County (1977-1977).

MEADOWS, JEANNETTE, M.S.
Extension Home Economics Agent (III), Sarasota County (1965-1976).

MILLER, JANICE G., M.S.
Extension Agent (II), Home Economics, Lake County (1977-1977).

MILLER, RUTH ANN, B.S.
Extension Home Economics Agent (III), Polk County (1969-1973).

MONTGOMERY, ROBERT TERRANCE, M.S.
Extension Agent-4-H (II), Manatee County (1968-1976).

MOORE, MARY ALLEN M.A.T.
Extension Home Economics Agent (III), Orange County (1954-1969).

MOORE, MARJORIE, M.Ed.
Extension Agent (I), 4-H, ENP, Escampia County (1977-1978).

MOORE, RALPH WILLIAM, B.S.
Extension Agent—Communications & 4-H (II), Dade County (1967-1969).

MOORE, PATRICIA A., B.S.
Extension Agent (I), Home Economics, Marion (1978-1978).

MORRIS, JAMES B., III, M.S.A.
County Extension Director (II), Lafayette County (1970-1973).

MOTT, CAROLE ELAINE BAILEY, B.S.
Extension Home Economics Agent (II), Taylor County (1973-1973).

MURRAY, THOMAS J., M.S.
County Extension Director (I), MAP, Monroe County (1978-1978).

NEWBURY, GEORGE H., M.S.
County Extension Director (II), Flagler County (1970-1973).

NEWTON, ROGER DALE, M.S.
Extension Agent-Ornamental Horticulture (III), Hillsborough County (1972-1976).

NIX, FERN SULPHIN, M.S.H.E.
Extension Agent-Home Economics (III), Santa Rosa County (1954-1976)

NORTON, MARTHA BURDINE, M.S.H.E.
Extension Home Economics Agent (II), Martin County (1952-1956).

O'NEAL, JANICE H., B.S.
Extension Agent Home Economics (I), Clay County (1974-1974).

OESTERLING, MICHAEL J., M.S.
Extension Agent (I), MAP, M.C., Citrus County (1978-1978).

OSWALT, THOMAS W., M.S.
Extension Agent-Citrus (III), Polk County (1963-1969).

PARRAMORE, ANN W., M.S.
Extension Agent Home Economics Program Leader (III), Leon County (1967-1979).

PARRISH, JAMES LOWELL, B.S.A.
Extension Agent 4-H (II), Bradford County (1972-1972).

PATTEN, JACK DOWELL, B.S.A.
County Extension Director (III), Okaloosa County (1955-1969).

PAULK, HARVEY T., M.Ag.
County Extension Director (IV), Leon County (1969-1972).

PENNER, RUTH TAYLOR, B.S.
Extension Home Economics Agent (II), Hillsborough County (1970-1970).

PHILLIPS, WILLIAM JOSEPH, JR., M.S.
Extension Agent (Horticulture) (III), Multi-County (1967-1969).

POOLE, LOUISE L., B.S.H.E.
Extension Home Economics Agent (II), Seminole County (1968-1969).

POSPICHAL, MARION THOMAS, M.S.
Extension Agent-Vegetables (I), Hillsborough County (1976-1976).

PRICE, RAYBURN KENNETH, M.Ag.
County Extension Director (IV), Okeechobee County (1952-1976).

PYBAS, DONALD W., M.S.
Extension Agent (I), MAP, Dade County (1978-1978).

RABINOWITZ, LARRY, J.D.
Extension Agent (I), Orn. Horticulture, Sarasota County (1978-1978).

RENNER, ROBERT LEWIS, JR., M.A.
Extension Agent (II), 4-H Marion County (1973-1973).

RICHARDS, JAMES EDWARD, M.S.A.
Extension Agent (Citrus) (III), Hillsborough County (1969-1970).

ROBERTSON, EDWENA JEANETTE, B.S.H.E.
Extension Home Economics Agent (III), Escambia County (1954-1969).

ROSE, SYLVESTER A., M.S.
Extension Agent - Ornamentals (IV), Brevard County (1956-1973)

ROWAN, CHARLES EDISON, M.Ag.
Extension Agent (III), County Extension Director Dixie County (1954-1979).

ROWAN, EDSEL WRIGHT, B.S.A.
County Extension Director (III), Marion County (1950-1969).

ROZAR, LUTHER LYNSON, M.Ag.
County Extension Director (III), Sarasota County (1958-1969).

RUBIO, MIGUEL E., B.S.
Extension Agent (I), Livestock, Highlands County (1977-1977).

RYAN, STEPHEN O., Ph.D. (Iowa State University)
County Extension Director (II), Dade County (1976-1976).

RYE, SYLVIA A., M.S.
Extension Agent (I), Home Economist & 4-H, Polk County (1979-1979).

RUSSELL, JOHN COLEMAN, M.Ag.
County Extension Director (IV), Gadsden County (1952-1970).

SANDERS, CYNTHIA T., M.S.
Extension Agent (I), Home Economics, ENP, Leon County (1978-1978).

SATCHER, JOY WREN, M.S.
Extension Home Economics Agent (III), Brevard County (1966-1971).

SCHULTZ; WILMAR A., M.S.
Extension Agent (I), Livestock, Alachua County (1977-1977).

SCOGGIN, MAGGIE F., B.S.
Extension Agent (I), 4-H, Santa Rosa County (1979-1979).

SCOTT, LENZY MAURICE, M.Ag.
Extension Agent - Beef Cattle Multi-County (II), (1955-1969).

SEAWRIGHT, TRAVIS, B.S.
Extension Agent-Livestock (I), Manatee County (1975-1975).

SELPH, JAMES F., M.S.
Extension Agent (I), County Extension Director (1979-1979).

SHIRAR, MARYLOU WAYMIRE, M.S.
Extension Home Economics Agent - 4-H (III), Palm Beach County (1959-1970).

SHOOK, ELAINE, M.S.
Extension Home Economics Agent (I), Leon County (1975-1975).

SHULER, KENNETH D., M.S.
Extension Agent-Vegetables & General Agriculture (I), Palm Beach County (1976-1976).

SMITH, CLARA ANN, B.S.
Extension Home Economics Agent (II), Pasco County (1963-1963).

SMITH, JAMES BLANCHARD, B.S.A.
County Extension Director (III), Osceola County (1950-1969).

SMITH, PATRICIA A., M.S. (University of Alabama)
Extension Agent (I), Home Economist Baker County, (1979-1979).

SMITH, WILLIAM CARLTON, Ph.D. (Louisiana State University)
County Extension Director (III), Suwannee County (1957-1973).

SMOOT, RUBY K., M.S.
Extension Agent (I), Home Economics, Lee County (1977-1978).

SPEARS, JACK JAMES, M.S.
Extension Agent (III), Santa Rosa County, County Extension Director Holmes County, (1965-1979).

SPELBRING, MARK C., M.S.
Extension Agent - Livestock (I), Pasco County (1976-1976).

SPYKE, PETER D., M.S.
Extension Agent (II), Citrus, Indian River County (1977-1977).

STALL, WILLIAM M., Ph.D. (University of Florida)
Extension Agent (II), Vegetables, Dade County (1974-1974).

STANLEY, PAULA PARIS, B.S.
Extension Home Economics Agent (II), Citrus County (1964-1964).

STEPHENS, ERNEST LEE, M.S.A.
Extension Agent 4-H (II), Duval County (1972-1972).

STEVELY, JOHN M., M.S.
Extension Agent (I), Map, McManatee County, (1979-1979).

STOUT, SHERYLE A., B.S.
Extension Agent (I), Home Economist, Madison County, (1979-1979).

STOUTAMIRE, JUNE B., B.S.
Extension Agent (I), Home Economics, 4-H Liberty County (1977-1978).

STRICKER, JAMES A., M.S.
Extension Agent (I), Farm Management, Polk County, (1979-1979).

SUMNER, SIDNEY LANIER, M.S.
Extension Agent—Beef Cattle (III), Polk County (1965-1969).

SWEAT, DONALD E., M.S.
Extension Agent-Map Multi-County (I), Pinellas County (1976-1976).

TAVSS, MARGO G., B.S.
Extension Agent (I), 4-H, Broward County (1973-1973).

TAYLOR, BOBBY LEE, M.Ag.
County Extension Director (III), Bradford County (1963-1971).

TAYLOR, DORIS, M.S.
Extension Home Economics Agent (II), Lake County (1973-1973).

TAYLOR, MEREDITH C., M.S.
Extension Home Economics Agent (III), Suwanne County (1969-1978).

TAYLOR, PATRICIA L., M.S.
Extension Agent (I), Map, Brevard County, (1979-1979).

TAYLOR, SANDRA L., M.S.
Extension Agent (I), Home Economics, P.L., St. Johns County (1978-1978)

THOMAS, SARAH KYLER, B.S.
Extension Home Economics Agent (II), Marion County (1954-1969).

THOMAS, WILLIAM D., M.S.
Extension Agent (I), County Extension Director, Columbia County (1977-1979).

THOMASTON, JAMES EDSEL, M.Ag.
County Extension Director (III), Walton County (1954-1969).

THOMPSON, ESSIE HOGAN, B.S.H.E.
Extension Home Economics Agent (II), Putnam County (1961-1963).

TILESTON, MARILYN DIETRICH, B.S.
*Extension Home Economics Agent (II), Osceola County (1956-1956).**

TILTON, WILLIAM A., M.S.
County Extension Director (I), Putnam County (1978-1978)

TOOMES, ZANITH L., M.S.
Extension Agent (I), 4-H Enp, Dade County (1977-1977).

TOWNSEND, DALLAS B., M.S.
Extension Agent (II), County Extension Director, Hendry County (1965-1979).

TOWNSEND, JO M., B.S.
Extension Agent -Home Economics Program Leader (II), Brevard County (1972-1977).

VAN GUNDY, C. CRAIG, B.S.
Extension Agent (I), Horticulture, Duval County (1978-1978).

VERNON, BETTY MARTIN, B.S.H.E.
Extension Home Economics Agent (III), Volusia County (1969-1977).

WADE, GARY LEE, M.S.
Extension Agent (1), Orn. Horticulture, Clay County (1976-1976).

WADE, WAYNE THEODORE, M.Ed.
Extension Agent (III), Beef, Hillsborough County (1961-1978).

WAKEFIELD, JUDITH, M.S.
County Extension Director (II), Indian River County (1975-1975).

WALKER, CARRIE L., B.S.
Extension Agent (I) Home Economics, Wakulla County (1978-1978).

WALTHALL, CHARLES MIDDLETON, M.S.
Extension Agent (III), Beef Cattle, Multi-County (1966-1969)

WASHINGTON, MARTHA MARIE, B.S.
Extension Home Economics Agent (II), Leon County (1970-1978)

WATSON, LEWIS ELBYRNE, M.Ag.
County Extension Director (IV), Broward County (1955-1971)

WEAVER, MARVIN FRANKLIN, M.S.
Extension Agent (II), 4-H, Escambia County (1972-1977).

WEBB, HELEN P., B.S.
Extension Agent (II), Hillsborough County (1963-1966).

WHIGHAM, NANCY BRIGHTMAN, B.S.H.E.
Extension Home Economics Agent (II), Pinellas County (1962-1962).

WHITE, MARY J., B.S.
Extension Agent (I), Home Economics, Hillsborough County (1978-1978).

WHITTON, GILBERT MARSHALL, M.Ag.
County Extension Director (IV), Pinellas County (1957-1969).

WHITTY, ROBERT BEZELLE, B.S.A.
County Extension Director-Horticulturist (II), Martin County (1965-1970).

WILKINS, DELORIS H., M.S.
Extension Agent (II), Home Economics, Orange County (1977-1977).

WILLIAMS, URSULA HICKS, B.S.
Extension Home Economics Agent (II), Gadsden County (1951-1969).

WYATT, JENTA R., M.S.
Extension Agent (I), Home Economics, Hardee County (1978-1978).

WYRICK, JERRY ALLEN, M.S.
Extension Agent — 4-H (II), Calhoun County (1967-1970).

YATES, DIANE ELIZABETH, B.S.
Extension Home Economics Agent (I), Volusia County, (1971-1971).

YELVINGTON, JAMES RUSSELL, M.Ag.
County Extension Director (III), Calhoun County (1973-1973).

YINGST, VICTOR W., B.S.
Extension Agent-Horticulture (I), Lee County (1976-1976).

YOUNG, BECKY EPPERLY, B.S.
Extension Home Economics Agent (II), 4-H, Walton County (1974-1978).

ZABOR, MARCIA L., B.S.
Extension Agent Home Economics (I), Marion County (1976-1976)

ZERBA, RAYMOND H., JR., M.Ag.
Extension Agent (I), Orn. Horticulture, 4-H, Monroe County (1975-1978).

MEMBERS OF THE FACULTY WHO RETIRED SINCE 1960 AND THOSE WITH EMERITUS STATUS

ADAMS, FRANK THOMPSON, Ed.D. (University of Florida)
Dean for Student Development, Emeritus (1973).

AHRANO, ELIZABETH CERMAK
Extension Home Economics Agent (I), IFAS, COUNTY WORK (1972)

AHRENS, MAURICE RUSSELL, Ed.D.
Professor Emeritus of Materials Science and Engineering (1973).

ALBRECHT, RUTH E., Ph.D. (University of Chicago)
Professor Emeritus of Sociology (1975).

ALLEGER, DANIEL EUGENE, M.S. (Pennsylvania State University)
Associate Professor Emeritus, Food and Resource Economics Department, IFAS (1973).

ALLEN, VIRGINIA FRICK, M.Ed.
Instructor, P. K. Yonge Laboratory School (1975).

ALLIGOOD, EDGAR RALEIGH, M.Ed. (University of Florida)
Director, Department of Independent Study of Correspondence, Division of Continuing Education (1978).

ALLISON, ROBERT VERRILL, Ph.D. (Rutgers University)
Fiber Technologist Emeritus, Everglades Experimental Station (1965).

ALSTON, CLIFFORD, M.S.A.
Professor Emeritus of Agricultural Economics (1971).

AMBROSE, EDNA VIRGINIA, Ed.D. (Columbia University)
Associate Professor of Education (1979).

ANDERSON, CARL ARTHUR, M.B.A., C.P.A. (Univ. of Florida)
Associate Professor Emeritus of Accounting (1978).

ANDERSON, MONTGOMERY D., Ph.D. (Brookings)
Professor Emeritus of Economics (1971).

ANDERSON, RICHARD JAMES, Ph.D. (University of Michigan)
Professor of Psychology, Associate University Counseling Center (1979).

ANDREWS, ADAM TUCKER, M.Ag.
County Extension Director (III), Alachua County (1979).

APPERSON, FRANCES EUGENIA, B.A. in L.S.
Librarian and Chairperson of Documents Department (1975).

ARNETT, WILLIAM TOBIAS, M.A. Arch.
Professor of Architecture; Dean Emeritus, College of Architecture and Fine Arts (1974).

ARNOLD, LUTHER A., Ed.D.
Associate Professor Emeritus of Education (1973).

ARNOLD, P. T., M.S.A.
Associate Professor Emeritus, RFUF (1959).

ATKINS, CEDRIC DONALD
Professor, IFAS, AREC, Lake Alfred (1972).

AUSTIN, OLIVER LUTHER, JR., Ph.D. (Harvard University)
Curator Emeritus of Ornithology, Florida State Museum (1973).

BACHMAN, HAROLD BURTON, B.S.
Professor Emeritus of Music (1961).

BAKER, MELVIN CHARLES, Ed.D. (University of Illinois)
Professor of Education and Assistant Dean, College of Education (1977).

BANNISTER, TURPIN CHAMBERS, Ph.D. (Harvard University)
D.F.A. (Denison University) Professor of Architecture and Dean Emeritus of the College of Architecture and Fine Arts.

BANTLEON, GEORGE F., M.D. (University of Rochester)
University Physician (1977).

BARRON, DONALD H., Ph.D. (Yale University)
Professor of Obstetrics and Gynecology (1975).

BASSETT, MAMIE G., B.S.H.E. (Univ. of Tennessee)
Extension Agent (III) (1975).

BATES, ROGER GORDON, Ph.D. (Duke University)
Professor Emeritus of Chemistry (1979).

BAUGHAN, DENVER EWING, Ph.D. (Yale University)
Professor Emeritus of English (1967).

BAXTER, JOHN FRANKLIN, Ph.D. (Johns Hopkins) Honorary D.Sc. (Bethany)
Distinguished Service Professor Emeritus of Chemistry (1978).

BAULT, ROGER QUINCY, M.A.
Assistant Professor Emeritus of Physical Science, RFUF (1966).

BEARD, PERCY M.
Associate Professor Emeritus, RFUF.

BEARDSLEY, DANIEL WALDO, Ph.D. (University of Illinois)
Professor (Animal Nutritionist), IFAS Agricultural Research and Educational Center, Belle Glade (1978).

BEATY, ROBERT C., M.A. (Vanderbilt)
Dean of Students, Emeritus (1960).

BEAUVAIS, JUNE T., B.A. (Piedmont College)
Instructor (1973).

BECKENBACH, JOSEPH RILEY, Ph.D. (Rutgers University)
Director Emeritus of Agriculture Experiment Station (1967).

BECKER, RAYMOND BROWN, Ph.D. (University of Minnesota)
Professor Emeritus of Dairy Science; Dairy Husbandman Emeritus, Agriculture Experiment Station (1963).

BECKWITH, STEPHEN L., Ph.D. (University of Michigan)
Associate Professor Emeritus, IFAS, School of Forest Resources and Conservation, Agricultural Experiment Station (1971).

BEEM, JEAN, M.S.A.
County Extension Director (IV), Hillsborough County (1979).

BENNETT, ROBERT BROADHURST, Ph.D. (Purdue University)
Professor Emeritus of Chemical Engineering (1979).

BENNETT, S. FLEMING, B.S.L.S.
Assistant Director of Libraries (1976).

BENNINGER, LAWRENCE J., Ph.D. (University of Missouri)
Professor Emeritus of Accounting (1978).

BINGHAM, N. ELDRED, Ph.D. (Columbia University)
Professor Emeritus of Education (1971).

BLACK, ALVIN PERCY, Ph.D. (University of Iowa)
Research Professor Emeritus of Chemistry and Professor Emeritus of Environmental Engineering Sciences (1966).

BLACKMON, GULIE H., M.S.A.
Horticulturist Emeritus, Agricultural Experiment Station (1954).

BLAKE, ROBERT GEORGE, Ph.D. (University of Florida)
Associate Professor of Mathematics (1976).

BLALOCK, LEWIS F.
Director of Admissions Emeritus (1966).

BLANTON, FRANKLIN S., Ph.D. (Cornell University)
Professor Emeritus of Entomology (1974).

BLEDSOE, SUE B., B.S. (W Kentucky State Univ.)
Extension Agent (III) (1976).

BLOCK, HERMAN H., C.E.
Professor Emeritus of Building Construction and Chairman of the Department (1963).

BLODGETT, RALPH HAMILTON, Ph.D. (University of Pennsylvania)
Associate Director of Personnel (1977).

BLOODWORTH, BERTHA ERNESTINE, Ph.D. (University of Florida)
Assistant Professor of English (1978).

BLOODWORTH, THOMAS H., M.A. (University of Florida)
Associate Director of Personnel (1977).

BOURKE, NORMAN, M.E.
Professor Emeritus of Mechanical Engineering (1960).

BOWERS, ROBERT HOOD, JR., Ph.D. (Yale University)
Professor of English and Curator of Rare Books (1975).

BOWMAN, JOHN F., D.M.D. (Tufts University)
Professor Emeritus, College of Dentistry (1979).

BOYD, FREDERICK TILGHMAN, Ph.D. (University of Wisconsin)
Professor Emeritus (Agronomist), IFAS (1974).

BRADBURY, ROBERT WESLEY, Ph.D. (University of Michigan)
Professor Emeritus of Economics (1975).

BRADLEY, RICHARD L., B.S.A.
Extension Agent (I), Sumter County (1974).

BRADSHAW, JAMES P., M.A., M.S.
Associate Professor of English (1977).

BRADY, MARNA V., Ed.D. (Columbia University)
Professor Emeritus of Comprehensive Logic (1971).

BRANCH, JOHN T., JR., M.B.A. (Southern Methodist University)
Coordinator, Department of Extended Services, Division of Continuing Education (1977).

BRELAND, HERMAN LEROY, Ph.D. (University of Illinois)
Professor of Soil Science (Soil Chemistry) IFAS (1979).

BRINKLEY, HARRY J.
County Agent Emeritus, RFUF.

BRISTOL, LORIS R., M.A. (University of Florida)
Assistant Professor Emeritus in Counseling Education (1969).

BRISTOR, JOHN D., M.S.
Professor Emeritus of Building Construction (1973).

BROOKER, MARVIN A., Ph.D. (Cornell University)
Professor and Dean Emeritus, IFAS (1971).

BROOKS, HAROLD KELLY, Ph.D. (Harvard University)
Professor of Geology, Civil Engineering and Coastal Engineering (1979).

BROWN, HENRY CLAY, Ph.D. (University of Florida)
Professor of Chemical Engineering and Professor Chemistry (1978).

BROWN, WOODROW W., M.Ag. (University of Florida)
Professor Emeritus, IFAS, Cooperative Extension Service (1972).

BUNTING, DONALD CHARLES, M.S.
Associate Professor of Physical Sciences (1975).

BURDINE, HOWARD WILLIAM, Ph.D. (Cornell University)
Professor (Soils Chemist), IFAS Agricultural Research and Education Center, Belle Glade (1976).

BURGIS, DONALD STAFFORD, M.S.A. (University of Florida)
Professor Emeritus, IFAS, Agricultural Research and Education Center, Bradenton (1979).

BUSBY, JOE NEIL, Ph.D. (University of Florida)
Professor, Dean for Cooperative Extension Services, IFAS (1976).

BUTTERWORTH, JAMES DONALD, Ph.D. (Northwestern University)
Professor of Marketing (1978).

CAKE, EDWIN W., Ph.D. (Cornell University)
Professor Emeritus, IFAS, Agricultural Experiment Station, Food and Resource Economics (1972).

CALDWELL, WOFFORD T., M.S.E.D.
Associate Professor Emeritus of Building Construction (1971).

CAMP, ARTHUR F., Ph.D. (Washington University)
Vice Director Emeritus, Citrus Experimental Station (1956).

CAMP, SUSAN C., M.S. (Columbia University)
Associate Professor Emeritus, IFAS, Florida Cooperative Extension Service (1971).

CAMPBELL, JOHN D., B.S.A.
County Extension Director (III), Dade County (1975).

CARLETON, WILLIAM G., J.D., M.A.
Professor Emeritus of History and Political Science (1961).

CARLSON, EARL C., M.A. (Boston University)
Associate Professor (1974).

CARROLL, WILLIAM R., Ph.D. (University of Minnesota)
Professor Emeritus of Bacteriology (1966).

CARSON, MARION C., M.B.A. (University of Florida)
Assistant Professor, RFUF.

CARVER, WILLIAM A., Ph.D. (State University of Iowa)
Professor Emeritus of Agronomy, IFAS (1964).

CAUSEY, JOHN HJALMAR, B.S.A
Extension Agent, Vegetables & Sugar Cane (III), Palm Beach County (1977).

CHAPMAN, WILLIS HARLESTON, M.S. (North Carolina State)
Professor, (Agronomist), and Center Director, IFAS, Agricultural Research and Education Center, Quincy (1978).

CHRISTIE, JESSE R., Ph.D. (George Washington)
Nematologist Emeritus, Agricultural Experiment Station (1960).

CLARK, BERNARD HENTZ, B.S.A.
Extension Agent Livestock (II), Gadsden County (1979).

CLARK, FRED, M.S.A. (University of Florida)
Professor of Agronomy, IFAS (1976).

CLARK, VERNON W., M.A. (New York University)
Professor Emeritus of Law (1974).

CLUFF, LEIGHTON E., M.D. (George Washington University)
Professor, Department of Medicine (1976).

COLE, MOSES MCWILLIE, B.S. (Mississippi State University)
Assistant Professor (Assistant Entomologist), IFAS (1975).

COMBS, ARTHUR WRIGHT, Ph.D. (Ohio State University)
Professor Emeritus in Education (1976).

CONNER, FREDERICK W.
Vice President for Academic Affairs, Academic Affairs (1971).

CONSTANS, HENRY P., LI.B., M.A. (University of Iowa)
Professor Emeritus of Speech (1965).

COOPER, ALICY JOYCE, Ed.D. (Columbia University)
Professor Emeritus of Education (1974).

COOPER, JOHN F., M.S.A.
Professor Emeritus, Agricultural Extension Service (1961).

COOPERRIDER, DONALD ELMER, D.V.N., M.S.C. (Ohio State University)
Professor (Parasitologist), College of Veterinary Medicine, IFAS, Florida Department of Agriculture, (1976).

COWEN, WILLIAM JOSHUA, B.S.A.
County Extension Director (III), Union County (1976).

COX, E. H., Ph.D. (University of North Carolina)
Professor Emeritus, English, Arts & Sciences (1972).

CREIGHTON, JOHN THOMAS, Ph.D. (Ohio State University)
Professor Emeritus of Entomology (1969).

CRIST, RAYMOND E., DOCTEUR ES LETTRES (Grenoble, France)
Research Professor Emeritus of Geography (1975).

CROUGH, HELEN JOHNSON, M.A.
Assistant Professor, P. K. Yonge Laboratory School (1975).

CUMBEE, CARROLL F., SR., M.A.E. (University of Chicago)
Associate Professor Emeritus of Education (1969).

CUNHA, TONY JOSEPH, Ph.D. (University of Wisconsin)
Distinguished Service Professor Emeritus (Animal Nutritionist) and Chairperson of Animal Science Department, IFAS, (1975).

CUNNINGHAM, MYRON ARTHUR, Ed.D. (Northwestern University)
Professor Emeritus of Education (1975).

CUTLER, RONALD JOHN, Ed.D. (Columbia University)
Associate Professor of English (1974).

DANBURG, RUSSELL LAVERNE, M.M.
Professor Emeritus of Music (1977).

DANIS, ANTHONY L., M.S. (Harvard University)
Professor Emeritus of Environmental Engineering Sciences (1967).

DAVAULT, JAMES W., Ph.D. (Columbia)
Professor Emeritus of Business Administration (1970).

DAVIDSON, ROBERT F., Ph.D. (Yale University)
Professor Emeritus of Humanities (1962).

DAVIS, JOHN H., Ph.D. (University of Chicago)
Professor Emeritus of Botany, IFAS (1969).

DAWSEY, POSTELLE GILPIN
County Extension Home Economics Agent (III), Institute of Food and Agricultural Sciences, Florida Agricultural Extension Service, County (1972).

DECKER, PHARES, Ph.D. (Cornell University)
Professor Emeritus (Plant Pathologist), IFAS (1976).

DEINZER, HARVEY T., J.D., Ph.D. (University of Michigan)
Professor Emeritus of Accounting (1973).

DEKLE, GEORGE W., B.S.A. (University of Florida)
Associate Professor (1976).

DICKENSON, CARRIE E., M.S.
Professor Emeritus, IFAS (1969).

DICKENSON, ELIZABETH, M.A. (Univ. of Tennessee)
Professor Emeritus, RFUF (1969).

DICKEY, RALPH DAVIS, M.S.A. (Cornell University)
Professor Emeritus (1973).

DICKINSON, JOSHUA CLIFTON, JR., Ph.D. (University of Florida)
Director and Curator of Ornithology, Florida State Museum (1979).

DIXON, BARMELL BLEDSOE, B.S.H.E.
Extension Home Economics Agent (II), Pasco County (1976).

DIXON, J.C., Ph.D. (University of North Carolina)
Professor of Psychology (1979).

DONOVAN, CLEMENT HAROLD, Ph.D. (Univ. of N. Carolina)
Professor Emeritus of Economics (1977).

DOTY, FRANKLIN A., Ph.D. (University of Iowa)
Professor of History and Social Sciences and Dean Emeritus of University College (1971).

DRAGSTEDT, LESTER R., Ph.D. (Rush Medical College)
Research Professor Emeritus of Surgery and Professor Emeritus of Physiology (1973).

DRAVES, DOROTHY ENGLE, B.S.H.E.
Extension Home Economics Agent (III), Pinellas County (1978).

DUKES, NEAL MATTHEW, B.S.
County Extension Director (III), Columbia County (1979).

DURELL, PHYLLIS B.
Assistant to the President (1977)

DURRANCE, CHARLES L., Ed.D. (Columbia Univ.)
Professor Emeritus of Education (1975).

DURRE, NOLAN L., M.S.
Extension Agent (III)-Vegetables, Dade County (1974).

EATON, ELIZABETH S., M.A.
University Librarian Emeritus, Health Center Library and Professor of Clinical Pharmacy (1975).

EBAUGH, NEWTON C.
Chairperson and Professor Emeritus, RFUF (1950).

EBY, EDNA S.
Extension Home Economics Agent (III), Volusia County, IFAS, Florida Cooperative Extension Service, County Work (1971).

EDEN, WILLIAM GIBBS, Ph.D. (University of Illinois)
Professor Emeritus (Entomologist) and Chairperson, Entomology Department, IFAS (1975).

EDSON, SETON N., M.S. (University of Florida)
Associate Professor of Soils (1970).

EDWARDS, RICHARD A., Ph.D. (UNC-Chapel Hill)
Professor Emeritus of Geology (1974).

EGGERT, CHESTER LEE, Ed.D. (University of Indiana)
Professor Emeritus of Education (1975).

ELKINS, RUTH MCKEOWN
Extension Home Economics Agent (III), Polk County, IFAS, Florida Cooperative Extension Service, County Work (1972).

ENWALL, HAYFORD OCTAVIUS, LI.B. (University of Florida)
Professor Emeritus of Law (1976).

EUTSLER, ROLAND B., Ph.D. (University of Pennsylvania)
Professor Emeritus of Economics, Business Administration (1970).

FAIN, JOHN TYREE, Ph.D. (Vanderbilt University)
Professor Emeritus of English (1975).

FAIRCHILD, ALEXANDER GRAHAM BELL, Ph.D. (Harvard University)
Professor (Entomologist) (1976).

FAIRING, ROBERT LEWIS
Associate Dean and Associate Professor, Division of Continuing Education (1972).

FENN, HENRY ANDERSON, LL.B. (Yale University)
Professor of Law, Dean Emeritus, and Distinguished Service Professor, College of Law (1978).

FERNANDEZ, PEDRO VILLA, M.A.
Professor Emeritus of Spanish (1966).

FIFIELD, WILLARD M., M.S.
Provost Emeritus for Agriculture (1962).

FLANIGAN, FRANK M., M.S., M.E.
Professor Emeritus of Mechanical Engineering (1970).

FOOTE, PERRY A., Ph.D. (University of Wisconsin)
Dean Emeritus of the College of Pharmacy and Professor of Pharmaceutical Chemistry (1967).

FORD, ERNEST S., Ph.D. (University of Chicago)
Professor Emeritus of Botany (1971).

FORSEE, WILLIAM T., Ph.D. (University of Florida)
Chemist Emeritus and Head Everglades Experimental Station (1968).

FORSMAN, MARION E., Ph.D. (Iowa State University)
Professor Emeritus of Electrical Engineering (1974).

FOSTER, CHARLES R., Ed.D. (Harvard University)
Professor Emeritus of Education (1966).

FOUTS, EVERETT L., Ph.D. (State University of Iowa)
Professor of Dairy Science and Dairy Technologist Emeritus, IFAS (1970).

FOX, LAURETTA E., Ph.D. (University of Illinois)
Associate Professor of Pharmacology and Therapeutics (1975).

FRAZER, PERCY W., M.S. (Yale University)
Associate Professor Emeritus, Forestry (1975).

FRENCH, ROWLAND B., Ph.D. (University of Iowa)
Biochemist Emeritus, Agricultural Experiment Station (1967).

GAGER, WILLIAM ARKINS, Ph.D. (Peabody College)
Professor Emeritus of Mathematics (1968).

GAHAN, JAMES B., M.S.
Professor of Entomology and Administrative Officer, USDA, Entomology Research Laboratory (1970).

GAINES, CAROLYN J., M.S. (Florida State University)
Associate University Librarian (1976).

GAMMON, NATHAN, JR., Ph.D. (Ohio State University)
Professor of Soil Science (Soil Chemistry), IFAS (1979).

GARRIS, EDWARD W., Ph.D. (Peabody University)
Head and Professor Emeritus, RFUF (1962).

GEHAN, FREDERICK EDWARD, M.A.E.
Associate Professor of English (1977).

GELTZ, CHARLES G., M.S.F. (Univ. of California)
Professor Emeritus, RFUF (1966).

GILBRAITH, KENNETH MARSHBURN, M.S.A.
Associate Professor, Food and Resource Economics Department, IFAS (1975).

GILCREAS, F. WELLINGTON, B.A. (Harvard University)
Professor Emeritus of Environmental Engineering Sciences (1968).

GLENN, WOODROW W., M.A. (University of Florida)
County Agent (III) (1975).

GODWIN, GRANT MURRAY, M.Ag.
Associate Professor (Associate State 4-H Club Agent), IFAS (1974).

GOIN, COLEMAN J., Ph.D. (University of Florida)
Professor Emeritus of Biological Sciences and Zoology (1971).

GOODWIN, FRANK, Ph.D. (University of Pennsylvania)
Professor Emeritus of Marketing (1965).

GOUCK, HARRY KYDD, M.S. (University of Massachusetts)
Associate Professor (Associate Entomologist), USDA, IFAS (1974).

GRAEFFE, ARNOLD DIDIER, Ph.D. (Berlin)
Professor of Humanities (1978).

GRAMLING, LEA GENE, Ph.D. (University of Florida)
Professor of Pharmaceutical Chemistry (1979).

GRAND, JOHN LOUIS ROCHON, M.A.
Professor Emeritus of Architecture (1975).

GRAVES, SAMUEL RAY, B.A. (Tennessee)
Athletic Director Emeritus (1960-1979).

GREENE, CALVIN CLAY, M.S.M.E.
Director Emeritus of Physical Plant (1979).

GREENE, ROBERT EDWARD LEE, Ph.D. (Cornell University)
Professor Emeritus, Food and Resource Economics Department, IFAS (1975).

GREENMAN, JOHN ROOSEVELT, J.D. (University of Florida)
Professor Emeritus, Food and Resource Economics Department, IFAS (1973).

GREGORY, MARJORIE BUTLER, B.S.H.E.
Extension Home Economics Agent (III), Gadsden County (1974).

GRIFFIN, ROBERT CUSHMAN, M.A.
Coordinator, Department of Extended Services, Division of Continuing Education (1977).

GRIFFITH, MILDRED, Ph.D. (University of California)
Professor Emeritus of Botany (1976).

GRIGSBY, SHAW EARL, Ph.D. (Cornell University)
Professor (Extension Program Specialist), IFAS (1975).

GRINTER, LINTON E., Ph.D. (University of Illinois)
Dean Emeritus and Professor (1973).

GROTH, JOHN H., Ph.D. (University of Washington)
Professor Emeritus of Humanities (1963).

GUY, ALBERT GLASGOW, Ph.D. (Carnegie-Mellon University)
Professor of Materials Science and Engineering (1979).

HADDOX, JACKSON ALEXANDER, M.Ag.
County Extension Director (III), Lake County (1979).

HADLOCK, EDWIN H., Ph.D. (Cornell University)
Professor Emeritus, Arts & Sciences, Mathematics (1972).

HAINES, LEWIS FRANCIS, Ph.D. (University of Michigan)
Professor Emeritus in Behavioral Studies (1977).

HALE, LESTER L., Ph.D. (Louisiana State University)
Vice President for Student Affairs and Professor of Speech Emeritus (1973).

HALL, ROBERTA HALCOMB, M.S. (University of Alabama)
Associate Professor, (Extension Home Furnishings Specialist), IFAS, (1977).

HAMILTON, HENRY G., Ph.D. (Cornell University)
Professor Emeritus of Agricultural Economics and Agricultural Economist Emeritus, Agricultural Experiment Station and Agricultural Extension Service (1965).

HAMMOND, EUGENE ASHBY, Ph.D. (University of North Carolina)
Professor of History and Social Sciences (1978).

HAMRICK, OLIVER RUDOLPH, M.Ag.
County Extension Director (IV), Madison County (1977).

HANNA, PAUL L., Ph.D. (Stanford Univ.)
Professor Emeritus, RFUF (1972).

HARPER, VERNE L., Ph.D.
Professor Emeritus, Forestry (1972).

HARRELL, AUBREY LUTHER, M.Ag.
County Extension Director (II), Baker County (1978).

HARRIS, BERT J., JR., B.S.A. (University of Florida)
County Agent (III) (1975).

HARRIS, HENRY C., Ph.D. (Cornell Univeristy)
Professor Emeritus of Agronomy, IFAS (1969).

HARROWER, MOLLY, Ph.D. (Smith College)
Professor Emeritus of Clinical Psychology (1975).

HART, THOMAS ALONZO EDWARD, Ph.D. (University of Michigan)
Professor of Humanities (1972).

HARVEY, WILLIAM B., A.B. (University of Pittsburgh)
Director, University Press (1977).

HATCHER, WILLIAM, B.S.A. (University of Arkansas)
County Agent (III) (1975).

HAYES, FRANCIS C., Ph.D. (University of North Carolina)
Professor Emeritus of Spanish (1973).

HAYNIE, JOHN D., B.S.A.
Professor Emeritus of Entomology (1971).

HAYSLIP, NORMAN CALVIN, B.S.A. (University of Florida)
Professor Emeritus, IFAS ARC, Ft. Pierce (1979).

HAYWARD, FREDERICK WARREN, Ph.D. (Cornell University)
Associate Professor (Associate Biochemist), IFAS, Agricultural Research and Educational Center, Lake Alfred (1975).

HEBERT, LEO P., Ph.D. (Louisiana State University)
Professor (1971).

HENDERSON, JOSEPH R., M.S.
Professor Emeritus (1969).

HERBERT, THOMAS WALTER, Ph.D. (Princeton University)
Distinguished Service Professor of English (1979).

HESTER, JANICE P., B.S. (Univ. of Illinois)
Assistant University Librarian, RFUF.

HETRICK, LAWRENCE A., Ph.D. (Ohio State University)
Professor Emeritus, IFAS, Entomology and Nematology (1972).

HICKS, ROBERTA CHERRY, B.S.
Extension Home Economics Agent (II), Baker County (1974)

HILLIARD, FRANCES PAULINE, Ed.D. (Columbia University)
Professor of Education (1979).

HINCKLEY, ELMER DUMOND, Ph.D. (University of Chicago)
Professor Emeritus of Psychology, Associate, University Counseling Center (1963).

HINES, VYNCE ALBERT, Ed.D. (University of Illinois)
Professor Emeritus of Education (1978).

HIXSON, IMOGENE, B.S. in L.S.
University Librarian Emeritus (1979).

HOLBROOK, HOLLIS HOWARD, B.F.A.
Professor Emeritus of Art (1978).

HOLLINSHEAD, BYRON S., M.A., LI.D. (Grinnel University) L.H.D. (Miami University)
Professor of Humanities and Dean Emeritus of University College (1967).

HOLLIS, ROBERT P., B.S.
Assistant Professor Emeritus of Industrial and Systems Engineering (1968).

HORN, GRANVILLE CLIDE, Ph.D. (University of Florida)
Professor Emeritus (Ornamental Horticulturist), IFAS (1974).

HORNE, EDWARD PORTER, Ph.D. (University of Iowa)
Professor Emeritus of Psychology (1976).

HUEFF, GEORGE B., Ph.D. (University of Pennsylvania)
Professor Emeritus of Economics (1971).

HUNTER, GEORGE W., III, Ph.D. (University of Illinois)
Professor Emeritus of Microbiology (1967).

HUSA, WILLIAM J., Ph.D. (University of Iowa)
Head Professor Emeritus of Pharmacy (1961).

HUTCHERSON, WILLIAM R., Ph.D. (Cornell University)
Professor Emeritus of Math (1969).

INGLE, DONA A., M.S. (University of Missouri)
Home Economics Agent (II) (1974).

INGLE, KELSEY H., M.S. (University of North Carolina)
Instructor Emeritus, RFUF, College of Engineering (1975).

JACKSON, ELMO L., Ph.D. (Harvard University)
Professor Emeritus of Economics (1975).

JANES, MELVIN JOSEPH, Ph.D. (Iowa State University)
Associate Professor, (Associate Entomologist), IFAS, Agricultural Research and Education Center, Belle Glade (1977).

JENNINGS, ROBERT BENJAMIN, J.D. (University of Florida)
Associate Professor of Business Law, College of Business Administration (1978).

JOHNS, ROE L.
Professor of Education, Education Administration (1971).

JOHNSON, CARL HENRY, Ph.D. (University of Washington)
Professor Emeritus of Pharmacognosy (1976).

JOHNSON, LOYS ALMON, M.S.C.E. (University of Wisconsin)
Professor Emeritus of Building Construction (1978).

JOHNSON, ROY IVAN, Ph.D.
Office of the Dean (1972).

JOHNSON, WARREN O., B.A.
Professor (1970).

JONES, ELISE C., B.A. (Agnes Scott)
Research Instructor Emeritus, Business Administration, Bureau of Economic

JONES, JOHN PAUL, JR., M.A.
Professor and Dean Emeritus of Journalism and Communications (1978).

JORGENSON, MILFORD CHRISTEN
Extension Agent, Horticulture (III), IFAS, County Work (1972).

JOYCE, JAMES B., D.D.S. (Marquette University)
Clinical Associate Professor (1975).

KAUFMAN, CLEMENS MARCUS, Ph.D. (University of Minnesota)
Professor (Silvic), IFAS (1976).

KELSHEIMER, EUGENE G., Ph.D. (Ohio State University)
Professor Emeritus, IFAS, Gulf Coast Experimental Station (1969).

KEPPEL, REUBIN A., M.S.E. (University of Florida)
Assistant Professor of Chemical Engineering (1973).

KIDDER, RALPH W., M.S.
Professor Emeritus of Animal Husbandry (1968).

KIKER, JOHN E., M.C.E.
Professor of Civil Engineering (1969).

KILBY, JOHN D., Ph D. (University of Florida)
Assiciate Professor Emeritus (1974).

KILLINGER, GORDON BEVERLY, Ph D. (Iowa State University)
Professor Emeritus, (Forage and New Crops Management) and Assistant Chairperson, Department of Agronomy, IFAS, RFUF (1975).

KINARD, DRAYTON TUCKER, Ph.D. (Michigan State University)
Professor Emeritus (Agricultural Engineer), IFAS (1974).

KING, EMILY ELIZABETH, Ph.D. (University of Wisconsin)
Professor (Extension Program Specialist), IFAS (1979).

KIRK, WILLIAM G., Ph.D. (Iowa State University)
Animal Scientist and Vice-Director Emeritus, Range Cattle Experimental Station (1968).

KISER, LORA A., M.S. (North Carolina State Univ.)
Professor Emeritus (Extension Home Economist), IFAS (1976).

KLEMENT, FRANK WILLIAM, M.A.
Assistant Professor of Engineering Graphics (1978).

KLUGE, RALPH W.
Professor Emeritus of Civil Engineering (1971).

KNORR, LOUIS C., Ph.D. (Cornell University)
Professor Emeritus, IFAS (1971).

KNOWLES, HAROLD L., Ph.D. (Kansas University)
Professor Emeritus, University College, Physical Sciences (1972).

KOKOMOOR, FRANKLIN W., Ph.D (University of Michigan)
Professor Emeritus of Math and Astronomy and Head of Department (1960).

KRESS, JACOB H., M.D. (University of Virginia)
Chief, Occupational Medicine (1977).

KREZDORN, ALFRED HERMAN, Ph.D. (Texas A&M University)
Professor (Horticulturist) Fruit Crops Department (1979).

KRIENKE, WALTER ALBERT, M.S.
Associate Professor Emeritus (Associate Dairy Technologist), IFAS (1976).

KRONSBEIN, JOHN, Dr. rer. nat. (JENA)
Professor Emeritus of Metallurgical and Materials Engineering (1971).

KUITERT, LOUIS C., Ph.D. (University of Kansas)
Professor (1976).

KUNDEL, TEWES, M.S.
Associate Professor Emeritus of Electrical Engineering (1970).

KURTZ, ALBERT K., Ph.D. (Ohio State University)
Professor Emeritus of Psychology (1968).

LACKEY, JAMES BRIDGES, Ph.D. (Columbia University)
Professor Emeritus of Environmental Engineering Sciences (1966).

LAESSLE, ALBERT M.
Associate Professor, Arts & Sciences, Zoology (1972).

LAIRD, CUBIE REVONIE, M.Ed.
County Extension Director (III), Gulf County (1979).

LANE, DAVID, Ph.D. (Columbia University)
Professor Emeritus of Education (1975).

LARRICK, THOMAS, M.Arch.
Professor Emeritus of Architecture (1971).

LAUTER, ELSA G.
Professor Emeritus, RFUF (1971).

LAWRENCE, FRED PARKER, M.S.A. (University of Florida)
Professor Emeritus of Fruit Crops (Citriculturist), IFAS (1974).

LEAVITT, BENJAMIN BURTON, Ph.D. (Harvard University)
Associate Professor of Zoology (1976).

LEBER, GAIL W.
Assistant Professor (Assistant Meteorologist) IFAS, NWS, Agricultural Research Center, Lakeland (1975).

LEE, ROBERT C., Ph.D. (George Peabody College)
Associate Professor (1974).

LEONARD, CHESTER D., Ph.D. (Rutgers University)
Professor, (Horticulturist), IFAS, Agricultural Research and Educational Center, Lake Alfred (1977).

LEWIS, EDWARD H., M.A. (University of Minnesota)
Associate Professor Emeritus in Engineering (1969).

LEWIS, HAL GRAHAM, Ph.D. (Columbia University)
Distinguished Service Professor Emeritus of Educational Foundations (1978).

LIPSCOMB, RALPH W., M.S.
Associate Professor Emeritus, IFAS, North Florida Experimental Station Marianna Unit (1970).

LOFTEN, WILLIAM TRAVIS, M.A.E.
Associate Professor Emeritus of Agricultural and Extension Education, IFAS (1975).

LONG, STEPHEN GANO, M.A. (University of Florida)
Assistant Professor of English (1977).

LORZ, ALBERT P., Ph.D. (University of Virginia)
Professor Emeritus, IFAS, Vegetable Crops (1972).

LUNDY, HOSEA WILLIA, B.S.A.
Associate Professor Emeritus (Associate Agronomist), Agricultural Research Center, Live Oak, IFAS (1974).

MACLACHLAN, EMILY STEVENS, M.A.
Assistant Professor of Social Sciences and Sociology (1975).

MAGIE, ROBERT ODGEN, Ph.D. (University of Wisconsin)
Professor (Plant Pathologist), IFAS Agricultural Research and Education Center, Bradenton (1977).

MALONEY, FRANK E., J.D. (University of Florida)
Dean Emeritus and Professor in Law (1973).

MARZKE, FREDERICK OTTO, Ph.D. (Michigan State University)
Professor (Entomologist), IFAS, USDA, Insect Attractant Behavior Research Lab (1975).

MARTINSON, EARL P., M.A.
Professor Emeritus of Industrial and Systems Engineering (1964).

MARVEL, MASON, Ph.D. (West Virginia University)
Professor, IFAS, Vegetable Crops (1979).

MASE, DARREL J., Ph.D. (Columbia University)
Dean Emeritus of Health Related Professions (1971).

MATHIS, BENJAMIN L., M.A.
Assistant to the Vice President for Student Affairs (1976).

MAUDERLI, MAX O., Ph.D. (Univ. of Pennsylvania)
Professor Emeritus (1974).

MCCULLARS, FORREST NOBLE, B.S.A.
County Extension Director-Agriculture (II), Indian River (1975).

MCCUNE, SHANNON, Ph.D. (Clark University)
Professor of Geography (1979).

MCDONALD, ELLEN M., M.A.
Instructor, P. K. Yonge Laboratory School (1975).

MCELWEE, EDGAR W., Ph.D. (Ohio State University)
Professor Emeritus (1973).

MCFADDEN, SAMUEL EDGAR, JR., Ph.D. (University of Virginia)
Assistant Professor (Assistant Ornamental Horticulturist), IFAS (1976).

MCFERRIN, JOHN BERRY, Ph.D. (University of North Carolina)
Professor Emeritus of Finance and Associate Dean, College of Business Administration (1976).

McGRAW, FRANK W.
Instructor Emeritus P. K. Yonge Laboratory School (1977).

MCINTOSH, PLEASANT R., M.F.A.
Professor Emeritus of Art (1968).

MCLENDON, IDA R., Ph.D. (Ohio State University)
Associate Professor Emeritus of Education (1967).

MCMULLEN, KENNETH S., M.Ag.
Professor Emeritus, IFAS (1969).

MCNAIRY, ALICE HALL, M.L.N.
Librarian and Assistant Chairman of Acquisitions Department (1979).

MCPHERSON, WILLIAM KENNETH, M.S. (Iowa State University)
Professor Emeritus (Agricultural Economist), IFAS (1974).

MCQUITTY, JOHN V., Ph.D. (Kentucky)
Director Emeritus, Board of Examiners (1972).

MCSWINE, JOSEPHINE H., B.S.H.E. (Mississippi So. C.)
CED and Extension Agent (I), RFUF (1967).

MEDLIN, QUENTIN, B.S.A.
County Extension Director (II), Citrus County (1974).

MEHLBERG, HENRY, Ph.D. (University of Lvov)
Graduate Research Professor, Philosophy and Physics (1975).

MEHRHOF, NORMAN R., M.Ag.
Professor Emeritus of Poultry Science; Poultry Husbandman Emeritus, Agricultural Experiment Station (1963).

MILES, GUY SIMPSON, Ph.D. (Vanderbilt University)
Associate Professor of English (1973).

MILLAR, JANE CARREE, M.A. (Ohio State University)
Assistant Professor of Physical Education (1976).

MILLER, HOWARD N., Ph.D. (University of California)
Professor, (Plant Pathologist), Institute of Food and Agricultural Sciences (1978).

MILLER, JAMES CHARLES, B.S.
Extension Agent (II), Madison County (1974).

MILLER, JAMES W., JR., M.S.F. (University of Florida)
Professor, (Logging and Sawmilling), IFAS (1978).

MIMS, BERNICE A., M.A.
Professor Emeritus, RFUF (1958).

MITCHELL, JEAN O., M.A.E.
Instructor, RFUF (1958).

MOONEY, ERNEST GORDON, M.P.E.
Associate Professor of Physical Education (1977).

MOORE, WILLIAM EDGAR, Ph.D. (Peabody College)
Professor Emeritus, University College, Comprehensive Logic (1972).

MORGAN, WILLIAM H., Ph.D. (University of Florida)
Director, Water Resources Research Center, Professor of Environmental Engineering Sciences, Affiliate Professor of Geography (1979).

MORRIS, ALTON C., Ph.D. (University of North Carolina)
Professor Emeritus of English (1973).

MORRIS, CHARLES W., Ph.D. (Chicago)
Research Professor Emeritus, RFUF (1971)

MORSE, WALTER P., Ph.D. (University of Florida)
Associate Professor Emeritus of Math (1971).

MUEHLNER, FELIX, U.J.D. (Frederick William)
Professor Emeritus, RFUF (1969).

MULL, LEON EDMUND, Ph.D. (Iowa State University)
Professor, (Microbiologist), IFAS (1978).

MULLER, ALBERT S., B.S.A. (Cornell University)
Associate in (1973).

MULLINS, ROBERT SPENCER, Ph.D. (University of Minnesota)
Professor (Plant Pathologist), IFAS (1977).

MUMA, MARTIN H.
Professor (Entomologist), IFAS (1971).

MUNDY, BELVEY WASHINGTON, Ph.D. (University of Indiana)
Associate Professor of Physical Sciences (1979).

MURPHEE, CLYDE ELWYN, D.P.A. (Harvard University)
Associate Professor Emeritus, Food and Resource Economics Department, IFAS (1975).

MURPHREE, ALBERT ALEXANDER, B.A. (Oxford University)
Associate Professor of English, Adviser (1978).

MYERS, FOREST EARL, M.Ag. (University of Florida)
Professor (Assistant to the Dean), IFAS (1978).

MYERS, FRANCIS C., M.A. (Harvard)
Assistant Professor Emeritus, RFUF (1971).

NEFF, THOMAS O'NEIL, M.S.E.
Associate Professor Emeritus of Mechanical Engineering (1975).

NELLER, JOSEPH R., Ph.D. (Rutgers University)
Soils Chemist Emeritus, Agricultural Experiment Station (1962).

NELSON, WALLACE MARTIN, Ph.D. (University of Florida)
Associate Professor of Social Sciences (1977).

NESMITH, JAMES, Ph.D. (North Carolina State University)
Associate Professor Emeritus, (Soil Specialist), IFAS (1976).

NETTLES, VICTOR FLEETWOOD, Ph.D. (Cornell University)
Professor Emeritus (Horticulturist), IFAS (1975).

NEWTON, TISSOT A., Ph.D. (Ohio State University)
Entomologist Emeritus, Agricultural Experiment Station (1964).

NICKELSON, WILLIAM, R.D.
Assistant Professor Emeritus of Electrical Engineering (1971).

NIELAND, LOUIS T.
Professor Emeritus, RFUF (1956).

NOLAN, WILLIAM JOHN, Ph.D. (University of Michigan)
Professor of Chemical Engineering (1977).

NORMAN, OSCAR NEWTON
Assistant Professor, IFAS, NWS, AREC, Lakeland (1972).

NULTON, LUCY, M.A.
Instructor Emeritus, P. K. Yonge Laboratory School (1973).

NUTTER, HAZEN EDWARD, M.A. (University of Florida)
Professor Emeritus of Education (1975).

O'CONNELL, STEPHEN CORNELIUS, J.D., LI.D. (Jacksonville University), D.Ed. (Biscayne College), LI.D. (Notre Dame University)
President Emeritus (1973).

ODOM, ALBERT HILL, M.S.A.
County Extension Director (II), Jefferson County (1975).

OLSON, WALDEMAR, Ed.D. (University of Texas)
Professor Emeritus of Education (1978).

O'QUINN, CLARENCE FENTRESS,
County Agent (II), IFAS, County Work (1972).

OSBORN, GEORGE COLEMAN, Ph.D. (Indiana University)
Professor Emeritus of Social Sciences (1974).

ORAS, ANTS
Professor Emeritus of English (1972).

ORMOND, WILLIAM NEWMAN, M.A. (University of Florida)
Associate Professor of English (1977).

ORSENIGO, JOSEPH R., Ph.D. (Cornell University)
Professor Emeritus (Plant Physiologist), IFAS, Agricultural Research and Educational Center, Belle Glade (1976).

O'STEEN, ALVA W., M.S.
Professor Emeritus, IFAS (1969).

OTTE, BURTON J., M.S. (University of Florida)
Curator, RFUF (1962).

PACE, JAMES EDWARD, M.S.A. (University of Florida)
Professor (Animal Husbandman), IFAS (1979).

PAGE, RALPH E., Ph.D. (Syracuse University)
Professor and Dean Emeritus of Political Science, Arts & Sciences (1971).

PATTERSON, PAUL B., Ph.D. (Univ. of Florida)
Assistant Professor, RFUF (1963).

PAYNE, ANCIL N., Ph.D. (University of Illinois)
Professor of History (1970).

PEELER, RUTH B.
Instructor, Education, P. K. Yonge (1972).

PENNINGTON, CLARK W., C.E.
Professor Emeritus and Associate Professor of Mechanical Engineering (1970).

PENROD, JOHN ARTHUR, Ph.D. (University of Pennsylvania)
Professor of English (1979).

PERRY, FRANKLIN S., M.Ag. (University of Florida)
Professor Emeritus (1974).

PETERSON, ERHART G., M.B.A., LL.B. (University of Florida)
Professor Emeritus of Accounting (1969).

PETTIS, AUBREY M., M.S.A.
Associate Professor Emeritus (Associate Agricultural Engineer), IFAS (1975).

PEYTON, FLOYD A., DSC (University of Michigan)
Professor (1974).

PHANEUF, VICTOR S., B.S.E.
Associate Professor Emeritus of Building Construction (1969).

PHILPOTT, FRANK, Ed.D. (New York University)
Assistant Professor Emeritus of Physical Education (1966).

PIERCE, EMORY L., Ph.D. (University of Florida)
Professor Emeritus of Biological Sciences (1970).

PIRENIAN, ZAREH M., M.S. (University of Florida)
Associate Professor Emeritus of Mathematics (1972).

PLATT, WILLIAM J., JR., M.S.A.
Professor Emeritus, IFAS (1968).

POTTER, WILLIAM MELVILLE, M.A.
Assistant Professor of Physical Education (1978).

PRESCOTT, FORD L., M.E.
Professor Emeritus of Mechanical Engineering (1963).

PRICE, JOSEPH E., B.A.E.
Professor Emeritus of Social Sciences, Adviser (1968).

PRICE, THOMAS J.
Assistant Professor, RFUF (1966).

PRIDGEN, ILA R.
Assistant Professor, RFUF (1955).

PRIEM, ELVIN S., B.S.E.E.
Associate Professor Emeritus of Electrical Engineering (1977).

PRINCE, VIVIAN C., M.S.L.S.
Associate Librarian and Associate Professor of Library Science and Head of Technical Processes (1962).

PRYOR, ROBERT SHEPERD, B.S.
County Extension Director (III), Palm Beach County (1975).

PULLAN, VERONICA A.
Instructor, Education, P. K. Yonge Laboratory School (1972).

PURSER, STUART ROBERT, M.F.A.
Professor Emeritus of Art (1976).

PYLES, THOMAS, Ph.D. (Johns Hopkins University)
Professor Emeritus of English (1972).

RAPPENECKER, CASPAR, Ph.D. (Cornell University)
Professor Emeritus of Geology (1976).

RAYMOND, WALTER, B.Arch.
Professor Emeritus of Architecture (1974).

REAVES, CLARENCE W., M.S.A.
Professor Emeritus of Dairy Science (1971).

REED, JOHN CLIFFORD, M.E. (Ohio State)
Professor Emeritus, Mechanical Engineering (1973).

REID, JOHN T., Ph.D. (Stanford University)
Associate Professor of Spanish (1974).

REITZ, J. WAYNE, Ph.D. (University of Wisconsin)
President Emeritus (1967).

REYNOLDS, MABEL M.
Associate Librarian, Catalog, College of Libraries (1971).

RHINES, FREDERICK NIMS, Ph.D. (Yale University)
Distinguished Service Professor Emeritus of Materials Science and Engineering (1978).

RHODEN, JAMES LLOYD, M.A. (University of Florida)
County Extension Director (III) (1972).

RICE, ROBERT J., M.A.
Assistant Professor of Journalism and Communications (1966).

RICHARDSON, JAMES GILBERT, M.A. (University of Florida)
Professor Emeritus of Finance (1979).

RING, ALFRED A., Ph.D.
Professor Emeritus of Real Estate (1974).

ROGERS, CLARENCE J., M.Ag. (University of Florida)
Professor Emeritus of Agricultural Engineering, IFAS (1979).

ROSE, GILLIS NORMAN, B.S. (Murray State College, Kentucky)
Associate Professor Emeritus, Food and Resource Economics Department, IFAS (1976).

ROSENBERGER, STANLEY E., Ph.D. (University of Florida)
Professor Emeritus, Food and Resource Economics Department, IFAS (1975).

ROUSE, ALVIN HAMILTON, M.S.
Professor (Chemist), IFAS Agricultural Research and Educational Center, Lake Alfred (1977).

SADLER, SAMUEL GOULD, Ed.D. (University of Florida)
Associate Professor of Mathematics (1976).

SALT, ELLIS B., Ed.D. (New York University)
Professor Emeritus of Professional Physical Education (1967).

SANDEFUR, WAYNE THOMAS, H.S.D. (University of Indiana)
Professor of Health Education (1979).

SANDERS, DORSEY A., D.V.M. (Kansas State College)
Professor Emeritus, IFAS (1968).

SASHOFF, STEPHEN P., M.S. (University of Pittsburgh)
Professor Emeritus of Electrical Engineering (1971).

SAWYER, EARL MORROW, Ph.D. (University of Florida)
Associate Professor Emeritus of Physics (1974).

SCHIFFLI, RICHARD J., B.S.B.A. (University of Florida)
University Business Manager (1977).

SCHOONMAKER, LUCAS W., B.S.E.E.
Associate Professor Emeritus of Electrical Engineering

SCHUMACHER, A.S., Ph.D. (Western Reserve U.)
Professor Emeritus of Clinical Psychology and Psychology (1976).

SCHWARTZ, FRANK LEROY, Ph.D. (University of Michigan)
Professor Emeritus, Mechanical Engineering (1972).

SCHWEYER, HERBERT ENGLISH, Ph.D. (Columbia University)
Professor Emeritus of Chemical Engineering (1976).

SCUDDER, DELTON LEWIS, Ph.D. (Yale University)
Professor Emeritus of Religion (1977).

SEABERG, LILLIAN MARIE, M.A.
Associate Librarian, Reference and Bibliography (1973).

SHARPE, RALPH HAROLD, M.S. (Texas A&M University)
Professor Emeritus of Fruit Crops (Horticulturist), IFAS (1975).

SHARPE, MILES HERVEY, Ph.D. (Pennsylvania State University)
Professor, Editor, Editorial Department, IFAS (1977).

SHECKLES, MARY W., Ed.D. (Columbia University)
Associate Professor Emeritus, Education (1972).

SHIELDS, MURRAY W., Ph.D. (University of Washington)
Professor Emeritus of Economics (1969).

SHOEMAKER, JAMES S., Ph.D. (University of Minnesota)
Professor of Food Science Emeritus and Horticulturist Emeritus, Agricultural Experiment Station (1966).

SILK, ERNEST S., M.S.
Assistant Professor Emeritus of Physical Science (1973).

SIMANTON, WILLIAM ALDRICH, Ph.D. (Iowa State University)
Professor Emeritus, Agricultural Research and Education Center, Lake Alfred, IFAS (1973).

SIMONS, JOSEPH H., Ph.D. (University of California)
Professor Emeritus of Chemical Engineering (1967).

SIMPSON, VICTORIA M., B.S.
Extension Agent (III), Home Economics, Dade County (1979).

SITES, JOHN WILBUR, Ph.D. (Ohio State University)
Professor (Horticulturist) and Dean for Research Emeritus, IFAS (1976).

SKELLETT, ALBERT M., Ph.D. (Princeton University)
Professor Emeritus of Electrical Engineering (1969).

SKINNER, THOMAS COBB, M.Ag. (University of Florida)
Professor Emeritus of Agricultural Engineering, IFAS (1979).

SLAUGHTER, JOHN EIDELL, M.A. (University of Florida)
Assistant Professor of Social Sciences and History (1977).

SMALL, KENNETH
Director Emeritus, WRUF AM-FM (1974).

SMALLWOOD, MARK, M.S.E. (University of Florida)
Assistant Professor Emeritus of Electrical Engineering (1973).

SMITH, CARROLL N., Ph.D. (George Washington University)
Professor Emeritus of Entomology and Director, USDA Insect Attractants Behavior and Basic Biology Research Laboratory (1970).

SMITH, CHARLES B., Ph.D. (University of Wisconsin)
Professor Emeritus of Math (1968).

SMITH, DOROTHY MARY, M.Ed.
Professor and Dean Emeritus, College of Nursing (1973).

SMITH, EDWARD FRANK, E.E. (University of Florida)
Associate Professor Emeritus of Electrical Engineering (1975).

SMITH, FREDERICK B., Ph.D. (Iowa State University)
Professor of Soils Emeritus and Microbiologist Emeritus, Agricultural Experiment Station (1967).

SMITH, JAMES HUNN, M.S., M.E.
Assistant Professor of Mechanical Engineering (1977).

SMITH, RALPH LESLIE, M.S. (Purdue University)
Associate Professor Emeritus (Field Crop Management), IFAS, ARC, JAY (1975).

SMITH, T LYNN, Ph D. (University of Minnesota)
Professor Emeritus of Sociology (1974).

SMITH, WILLIAM WARD
Associate Professor, IFAS, Entomology and Nematology (1972).

SMITH, WINSTON O., Ph.D. (Purdue University)
Professor Emeritus of Mechanical Engineering (1968).

SPACHE, GEORGE D., Ph.D. (Rutgers University)
Professor Emeritus of English and Education (1969).

SPENCER, ERNEST L., Ph.D (Rutgers University)
Soils Chemist Emeritus and Head Gulf Coast Experiment Station (1968).

SPIVEY, HERMAN EVERETTE, Ph.D. (Univ. of North Carolina)
Professor Emeritus of English (1974).

SPURLOCK, ALVIN HAROLD, M.S.A. (University of Florida)
Professor Emeritus, Food and Resource Economics Department, IFAS (1973).

STANLEY, DENNIS K., M.A.E. (Pennsylvania State University)
Dean Emeritus of the College of Physical Education, Health, and Recreation and Professor of Professional Education (1976).

STANLEY, JAMES MIDDLETON, M.S. (Virginia Poly.)
Professor (Agricultural Engineer), USDA, IFAS (1977).

STARR, NATHAN C., Ph.D. (Harvard University)
Professor Emeritus of English and Humanities (1963).

STEARNS, THOMAS W., Ph.D. (University of Minnesota)
Professor Emeritus of Chemistry (1974).

STEPHENS, RICHARD B., LL.B. (University of Michigan)
Professor Emeritus of Law (1977).

STEVENS, BILLIE KNAPP, M.A.
Professor Emeritus of Professional Physical Education (1976).

STEVENS, GRACE A., M.A. (Columbia U. Teachers C.)
Instructor, RFUF (1950).

STEWART, ERNEST HAROLD, M.S. (Auburn University)
Associate Professor (Associate Soils Physicist), IFAS, USDA Agricultural Research Center, Ft. Pierce (1978).

STOCKSTILL, ROY E., B.S.
Assistant Professor Emeritus, Engineering, Engineering Graphics.

STORER, MORRIS B., Ph.D. (Harvard)
Professor Emeritus of Humanities (1973).

STOVER, LOREN H.
Assistant in Horticulture Emeritus, Watermelon and Grape Investigations Laboratory (1965).

STRYKER, PHILIP DAVID, Ph.D. (Northwestern University)
Professor Emeritus of English (1976).

SVARLIEN, OSCAR, Ph.D. (University of North Carolina)
Professor Emeritus of Political Science (1976).

SWANSON, DANIEL C., Ph.D. (Cornell University)
Professor Emeritus of Physics (1971).

SWANSON, LEONARD E., D.V.M. (Ohio State University)
Professor Emeritus, IFAS (1967).

SWETT, MANETTE, M.A.
Instructor Emeritus, P. K. Yonge Laboratory School (1976).

SWINFORD, KENNETH R., Ph.D. (University of Michigan)
Professor Emeritus (1975).

TAMS, MADGE PENTON, B.A. in L.S.
Librarian, Reference and Bibliography (1973).

TAYLOR, LAWRENCE DENNIS, M.Ag.
County Extension Director (II), Holmes County (1979).

TELLER, MORTON HERMAN, M.A.E.
Assistant Professor Emeritus of Physics (1974).

THOMASON, OLIVER BRUCE, Ph.D. (Penn. State University)
Professor Emeritus of Rehabilitation Counseling (1975).

THOMPSON, ETHEL P., B.S. (Murray State College)
Home Economics Agent (II) (1973).

THOMPSON, L. G., JR., Ph.D. (Iowa State University)
Professor of Soil Science (1973).

THOMPSON, WILLIAM L., B.S.
Entomologist Emeritus, Citrus Station (1962).

THORNTON, GEORGE, Ph.D. (Ohio State University)
Professor Emeritus, IFAS (1971).

TIFFIN, WILLIAM TRUITT, M.S.M.E. (University of Missouri)
Professor Emeritus of Materials Science and Engineering (1973).

TISON, JEAN PIEPER, M.A.E. (University of Florida)
Assistant Professor in Education (1979).

TISSOT, ARCHIE N., Ph.D. (Ohio State)
Entomologist Emeritus, Agricultural Experiment Station (1964).

TONER, RAYMOND J., M.A.
Assistant Clas Director (1975).

TORRACA, PASQUALE MARIO
Professor Emeritus, Department of Architecture (1964).

TOWNSEND, KENNETH G., M.S. (University of Florida)
Associate in Entomology, IFAS (1978).

TOWNSEND, RUTH O., R.N. (St. Vincents Hospital)
Senior Research Assistant Emeritus, IFAS (1969).

TOWNSEND, THOMAS RALPH, M.Ag.
County Extension Director-Agricultural (III), Volusia County (1976).

TUNISON, PAUL B., M.Ed. (University of Florida)
Assistant Professor Emeritus of Physical Science (1973).

TURNER, GLOVER M., LL.B.
Head Emeritus, Department of Special Programs, Division of Continuing Education (1968).

TUTTLE, FRANK W., Ph.D. (University of Iowa)
Professor Emeritus of Economics (1967).

VALENTINE, MARION BULLARD, B.S.H.E.
Extension Home Economics Agent (III), Lake County (1976).

VOGEL, JOSEPH F., Ph.D. (University of Florida)
Associate Professor of English (1979).

VOLK, GAYLORD MONROE, Ph.D. (University of Wisconsin)
Professor Emeritus (Soils Chemist), IFAS (1975).

VOSS, ELBERT, Ph.D. (University of Florida)
Professor Emeritus of Pharmacy (1973).

WALKER, BIRON H., M.A. (University of Florida)
Professor of English (1975).

WALKER, SUE ROBERTS, B.S.
Associate Librarian, Acquisitions (1947-1976).

WALKER, JAMES HENRY, M.S.A.
Extension Agent-Soils & Agronomy (III), Escambia Co. (1976).

WALLACE, ALEXANDER P., Ph.D. (University of Virginia)
Graduate Research Professor Emeritus of Mathematics (1973).

WALLACE, HOWARD K., Ph.D. (University of Florida)
Professor Emeritus, Arts & Sciences, Zoology (1972).

WALLACE, MAXWELL JOSEPH, Ph.D. (Cornell University)
Associate Professor Emeritus of French (1975).

WALSH, HELEN, B.S. (Mississippi State University)
Associate in Obstetrics and Gynecology (1973).

WARMKE, HARRY EARL, Ph.D. (Stanford University)
Professor of Sociology and Psychiatry (1977).

WARREN, JESSIE ALMA, M.A. in L.S.
Assistant Professor Emeritus (Assistant Communications Specialist), IFAS (1976).

WATKINS, JOHN V., M.S.A.
Professor Emeritus of Ornamental Horticulture (1969).

WATKINS, MARSHALL OWEN, D.P.A. (Harvard University)
Dean Emeritus, Division of Continuing Education and Dean Emeritus for Extension Services, IFAS (1969).

WATKINS, MAUD
Instructor, RFUF.

WATSON, JAMES N., B.S. (University of Florida)
County Agent (III) (1975).

WATSON, MARY CALDWELL, B.S. in L.S.
Associate Librarian, Reference and Bibliography (1978).

WEBB, D. NEIL, B.S., B.A.
Associate Director, Division of Planning and Analysis (1978).

WEBER, GEORGE F., Ph.D. (University of Wisconsin)
Professor Emeritus of Plant Pathology (1964).

WEBER, IRVING L.
Professor Emeritus of Sociology (1971).

WEIMER, RAE O.
Professor and Dean Emeritus, College of Journalism and Communications (1968).

WENZEL, FREDERICK WILLIAM, JR., Ph.D. (University of Massachusetts)
Professor Emeritus, Agricultural Research and Education Center, Lake Alfred, IFAS (1973).

WERSHOW, IRVING ROBERT, Ph.D. (Yale University)
Professor Emeritus of Spanish (1976).

WEST, STANLEY L., LL.B., B.S. in L.S.
Director of Libraries Emeritus and Professor of Library Science Emeritus (1967).

WHITE, BARBARA CRITTENDEN, M.A. (New York University)
Chairman and Professor, Department of Physical Therapy (1973).

WHITE, JOSEPH B., Ph.D. (Peabody College)
Dean Emeritus, Education (1972).

WHITE, WYLMA BLODGET, M.S.H.E.
Extension Home Economics Agent (II), Hamilton County (1978).

WHITEHEAD, RICHARD HOLMES, B.A. (University of Florida)
Dean of Admissions and Records (1977).

WHITNER, BENJAMIN F., JR., B.S.A.
Assistant Horticulturist Emeritus, Central Florida Experimental Station (1967).

WICKS, LYLE L., M.S. (Cornell University)
Assistant Research Scientist and Agricultural Education Specialist (1979).

WILCOX, DONALD B., M.S.M.E. (Georgia Tech.)
Professor Emeritus of Industrial and Systems Engineering (1975).

WILGUS, ALVA C., Ph.D. (University of Wisconsin)
Professor Emeritus of History and Director Emeritus, Carribbean Conferences (1967).

WILLIAMS, DAVID T., Ph.D. (New York University)
Professor Emeritus of Engineering Sciences (1977).

WILLIAMS, HERMAN BARNES, B.M.E.
Associate Professor Emeritus, Engineering Graphics (1972).

WILLIAMS, IZOLA F., M.S. (University of Tennessee)
Associate Professor and Chairman (1973).

WILLIAMS, MARGARET RUTH, M.A. (Michigan State University)
Professor Emeritus of Medical Technology (1974).

WILLIAMS, MARJORIE LUDEMAN, B.S.H.E.
Extension Home Economics Agent (III), Orange County (1952-1969).

WILLIAMSON, HERBERT DUFF, M.C.E.
Professor Emeritus of Building Construction (1975).

WILSON, JOHN W., D.Sc. (Harvard)
Professor Emeritus, RFUF (1966).

WING, ALEXANDER HOLBROOK, Ph.D. (Columbia Univ.)
Professor of Electrical Engineering (1976).

WINSOR, HERBERT WILLIAMS
Assistant Professor, IFAS, Soil Science (1972).

WISE, JACOB HOOPER, Ph.D. (Peabody College)
Chairman Emeritus of Comprehensive Courses: Reading, Speaking, and Writing, and Professor Emeritus of English (1964).

WOLFE, HERBERT S., Ph.D. (University of Chicago)
Professor Emeritus of Fruit Crops, IFAS, RFUF (1964).

WOLFENBARGER, DANIEL OTIS, Ph.D. (Cornell University)
Professor Emeritus, Entomologist, IFAS, Agricultural Research and Educational Center, Homestead (1974).

YODER, LOWELL C., M.A.
Associate Professor Emeritus of Marketing (1967).

YOHO, WILLIAM HERBERT, M.S.
Associate Professor of Physical Sciences and Geology (1978).

YOUNG, CANNING K. M., M.A.F.A.
Professor Emeritus of Architecture (1973).

YOUNG, GERTRUDE MARIAN, Ph.D.
Associate Professor of Education (1973).

YOUNGS, MARIAN AMELIA, M.A. in L.S.
*Librarian, Assistant Chairperson, Catalog (1978).**

YOUNG, THOMAS WILBUR, Ph.D. (Cornell University)
Professor (Horticulturist), IFAS, Agricultural Research and Education Center, Homestead (1976).

YOZGATLIOGLY, CUNEYT A., M.D.
University Psychiatrist.

ZEIGLER, LOUIS WILLIAM, Ph.D. (University of Florida)
Professor of Fruit Crops, IFAS (1976).

ZETROUER, WALLACE, M.S.
Assistant Professor Emeritus of Electrical Engineering (1973).

ZIMMERMAN, IRENE, Ph.D. (University of Michigan)
Librarian, Reference and Bibliography (1977).

ZIMMERMAN, LELAND L., Ph.D. (University of Wisconsin)
Professor Emeritus of Theatre (1979).

ZORN, WILLIAM C., M.Ag.
County Extension Director (III), Santa Rosa County (1979).

LIST OF DECEASED STAFF—

ANDERSON, CHARLES LAMAR, M.S.A. (University of Florida)
Assistant Professor (Assistant Agricultural Economist) IFAS. (Deceased January, 1976).

BOLLES, ROBERT STEPHEN, Ed.D. (Columbia University)
Dean, College of Architecture and Fine Arts; Professor of Music. (Deceased June, 1974).

BRIDGES, CHARLES MARTIN, JR., Ed.D. (Univ. of Tennessee)
Professor of Education. (Deceased October, 1973).

BRUNET, JOSEPH, Ph.D. (Stanford University)
Professor Emeritus of Classical Languages. (Deceased September, 1973).

BULLARD, WILLIAM ROTCH, JR., Ph.D (Harvard University)
Associate Professor of Anthropology, Chairman of the Department of Social Sciences and Associate Curator, Florida State Museum. (Deceased June, 1972).

BULLEN, RIPLEY PIERCE, D.Sc. (University of Florida)
Curator Emeritus of Anthropology, Florida State Museum (Deceased 1976).

BURNES, JAMES ALTON, D.Ph. (Oxford University)
Professor of Law (Deceased June 6, 1979).

CALAWAY, WILSON, M.S. (University of Florida)
Assistant Professor Emeritus of Entomology. (Deceased December, 1971).

CARSON, ROBERT E., Ph.D. (University of Michigan)
Professor Emeritus of Humanities, Adviser. (Deceased November, 1971).

CATE, CHARLES A., Ed.D. (University of Texas)
Associate Professor of Education. (Deceased August, 1972).

COOPER, PHILIP, M.D. (Harvard Medical School)
Professor of Surgery, College of Medicine. (Deceased October, 1972).

COULSON, GRACIELA B., Ph.D. (Washington Univ., St. Louis)
Associate Professor of Spanish (Deceased January, 1980).

CRAPS, JOHN ELLIS, Ph.D. (Johns Hopkins University)
Associate Professor Emeritus of German (Deceased, 1973).

CURREN, CHARLES H., D.Sc. (University of Montreal)
Professor, Agricultural Research Center, Leesburg. (Deceased January, 1972).

DAANE, BETH, M.S.
Associate Librarian, Reference and Bibliography (Deceased August 5, 1977).

DAVIS, EDWARD ARNOLD, Ed.D. (University of Florida)
Assistant Professor of Education. (Deceased June, 1974).

DAVIS, ROBERT STANLEY, B.Arch.
Assistant Professor of Architecture. (Deceased May, 1971).

DRAGSTEDT, LESTER, M.D. (Rush Medical College) Ph.D. (University of Chicago)
Research Professor Emeritus of Surgery and Professor Emeritus of Physiology (Deceased July, 1975).

EDDINS, ARTHUR H., Ph.D. (State University of Iowa)
Plant Pathologist Emeritus. (Deceased October, 1974).

EIBNER, JOHN R., B.S.
Director of Boosters.

FARRELL, WILBURN CARLOS, M.A.
County Extension Director (III), Alachua County, (Deceased September, 1974).

FOX, GEORGE GILLESPIE, Ph.D. (Princeton University)
Professor Emeritus of English. (Deceased April, 1972).

GABBAY, EDMOND J., Ph.D. (Columbia University)
Professor of Chemistry and Biochemistry (Deceased July, 1979).

GEORGE, THEODORE SAMUEL, Ph.D. (Duke University)
Professor Emeritus of Electrical Engineering (Deceased February, 1975).

GRAINGER, DAVID A., D.D.S. (Northwestern University)
Professor and Chairman of Operative Dentistry, College of Dentistry. (Deceased July 1978).

HESS, NANCY ROSE, Ph.D. (University of Wisconsin)
Associate Professor of Marketing (Deceased July, 1978).

HILL, WALTER A., D.B.A. (U. Washington)
Associate Professor (Deceased June, 1974).

HOSKINS, WILBUR JOLIFFE, M.S.
Instructor, P. K. Yonge Laboratory School. (Deceased October 4, 1977).

HUTTON, CURTIS EVANS, Ph.D (Iowa State University)
Professor (Soil Chemist) and Center Director, IFAS, Agricultural Research Center, (Deceased May, 1972).

JOURARD, SIDNEY, M., Ph.D (Buffalo University)
Professor of Psychology (Deceased December, 1974).

KELBERT, DAVID G., A.
Associate Horticulturist Emeritus, Gulf Coast Experimental Station (Deceased October, 1971).

KIDD, KENNETH P., Ph.D. (Peabody University)
Professor Emeritus of Secondary Education (Deceased February, 1975).

KINCAID, RANDALL RICH, Ph.D. (University of Missouri)
Professor Emeritus (Plant Pathologist), IFAS, AREC, Quincy. (Deceased November, 1971).

KINER, CLEVELAND D., M.E.D. (Pennsylvania State University)
Assistant Professor and Director (Deceased, 1973).

KIRCHNER, WALTER, M.D. (University of Louisville)
Clinical Associate Professor (Deceased, 1974).

KIRKLAND, E. C., Ph.D. (Northwestern University)
Professor of English. (Deceased October, 1972).

KORU, SADISABIT, M.A.
Associate Professor of Architecture (Deceased December, 1972).

LAUTER, WERNER M., Ph.D. (Griefswald)
Professor Emeritus of Pharmaceutical Chemistry (Deceased January, 1972).

LAVIRE, WILLIS A., Ed.D (University of Florida)
Associate Professor (Deceased March, 1974).

LUSKY, RAFAEL, Ph.D. (M.I.T.)
Assistant Professor of Economics (Deceased May, 1976).

MAUDERLI, MAX O., Ph.D. (University of Pennsylvania)
Professor Emeritus of German. (Deceased September, 1974).

MCCUBBIN, EARL N., Ph.D. (Cornell University)
Horticulturist Emeritus, Potato Investigations Laboratory. (Deceased January, 1970).

MELENY, HENRY E., MD. (Columbia University)
Professor Emeritus of Medicine. (Deceased, 1971).

MURPHEY, MILLEDGE, Ph.D. (Oklahoma State University)
Professor of Entomology, IFAS (Deceased 1977).

MURPHY, EDMUND J., M.D. (University of Nebraska)
Assistant Professor of Anesthesiology (Deceased, 1979)

OLSEN, ROBERT WINTHROP, B.S. (M.I.T.)
Professor (Biochemist) IFAS, AREC-Lake Alfred Educational Center, Lake Alfred, Arts and Sciences (Deceased February, 1979).

OPPELT, W. WALTER, M.D. (Harvard Medical School)
Professor of Medicine and Pharmacology and Director, Clinical Research Center. (Deceased February, 1974).

PEREZ, GUILLERMO JORGE, M.D. (University of Paris)
University Physician, Student Health Service; Assistant Professor of Pediatrics, College of Medicine (Deceased December, 1975).

POLLOCK, KENNETH CHARLES, Ph.D. (Northwestern University)
Associate Professor of Communicative Disorders and Speech. (Deceased August, 1974).

POWERS, LEONARD S., LL.M. (Duke University)
Professor of Law. (Deceased March, 1972).

PRUGH, BYRON JONATHAN, B.S.C.E.
Professor of Building Construction. (Deceased June, 1974).

PURPURA, JAMES A., M.S.E.
Professor of Coastal and Oceanographic Engineering, (Deceased February 1978).

REED, THOMAS MCKENNAN, Ph.D. (Pennsylvania State Univ.)
Professor of Chemical Engineering. (Deceased March, 1976).

REESE, ROBERT LEWIS, Ph.D. (University of Florida)
Assistant Professor, (Assistant Horticulturist), IFAS, Agricultural Research and Educational Center, Lake Alfred (Deceased March 1978).

ROBERTSON, CHARLES A., LITT.D. (University of the South)
Professor Emeritus of English (Deceased January 4, 1975).

ROSIER, NELSON EUGENE, M.S.E.E.
Associate Professor of Electrical Engineering. (Deceased February, 1972).

RUFF, WILLIAM, Ph.D. (Yale University)
Professor Emeritus of English. (Deceased September, 1974).

SCHMIDT, DORIS T., M.A.
Professor Emeritus of Music (Deceased, October 22, 1972).

SCOTT, THOMAS A., Ph.D. (Harvard University)
Professor of Physics and Astronomy (Deceased October, 1979).

SHIELDS, MURRAY W., Ph.D. (Auburn University)
Professor of Economics. (Deceased January, 1976).

SLATER, JOHN C., Ph.D. (Harvard University)
Graduate Research Professor Emeritus of Physics & Chemistry (Deceased July, 1976).

SMITH, FRANCES SHAVER, M.A.
Associate Librarian, Catalog (Deceased October, 1974).

STAKELY, JAMES OWEN, B.S. Arch.
Associate Professor of Building Construction. (Deceased February, 1974).

STANLEY, ROBERT GREENBLATT, Ph.D. (University of California)
Professor (Forest Physiologist), IFAS. (Deceased April, 1974).

STETSON, CHANDLER A., JR., M.D. (Harvard University)
Vice President for Health Affairs; Dean of College of Professor of Pathology (Deceased May 25, 1977).

TOWERS, DOROTHY AGNES, B.S.
Extension Home Economics Agent (II), Dade County. (Deceased November, 1973).

TUCKER, WILLIAM B., M.D. (University of Chicago)
Professor of Medicine (Deceased May 27, 1979).

UREY, BLANCHE I., Ed. D. (Columbia University)
Dean and Professor, College of Nursing (Deceased December 4, 1978).

WALCZAK, LOUISE J., Ph.D. (University of Illinois)
Assistant Professor (Deceased October 1974).

WEECH, A. ASHLEY, M.D. (Johns Hopkins Medical School)
Professor in Pediatrics (Deceased, 1977).

WEIL, JOSPEH, D.Sc. (Jacksonville University)
Dean Emeritus, College of Engineering (Deceased Dec. 1977).

WELLS, THOMAS N., B.S. (Rose Polytechnic Institute)
Business Manages Emeritus (1979).

WERSHOW, IRVING ROBERT, Ph.D. (Yale University)
Professor Emeritus of Spanish (Deceased April 1977).

WEST, ERDMAN, M.S.
Professor Emeritus of Botany and Mycologist Emeritus, Agriculture Experiment Station. (Deceased 1965).

WESTGATE, PHILIP J., Ph.D. (Cornell University)
Professor Emeritus, IFAS, Central Florida Station. (Deceased June, 1974).

WILLIAMSON, ROBERT C., Ph.D. (University of Wisconsin)
Professor Emeritus of Physics. (Deceased September, 1972).

WILSON, JOHN W., Sc.D. (Harvard University)
Entomologist Emeritus, Central Florida Experimental Station. (Deceased June, 1974).

WOLFF, GEORGE ELLIOTT, Ph.D. (Univ. of North Carolina)
Professor of Social Sciences, Advisor. (Deceased March, 1973).

WOLFORD, RICHARD WILSON, M.A. (Duke University)
Associate Professor of Management. (Deceased June, 1974).

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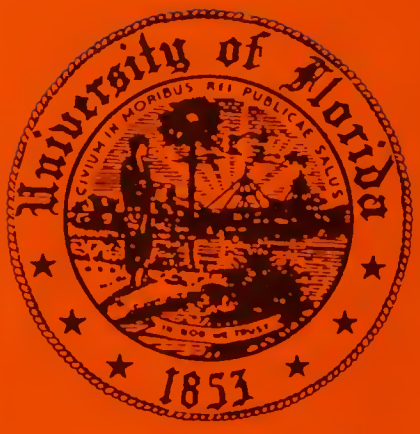
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